

Release  
after  
Redaction  
(home addresses)

107-6 CIVIL LAW DEPOSITION  
RECEIVED AFTER OCTOBER 3, 2001

East Poplar Oil Field

DEPOSITION - ALLEN Y

Region 8



13601

1 JOHN WALKER ROSS  
2 Brown Law Firm, P.C.  
3 315 North 24th Street  
4 P.O. Drawer 849  
5 Billings, MT 59103-0849  
6 (406) 248-2611

7 *Attorneys for Defendants MESA*  
8 *Petroleum Co., Pioneer Natural*  
9 *Resources Company and Pioneer*  
10 *Natural Resources USA, Inc.*

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IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF MONTANA  
BILLINGS DIVISION

CARY G. YOUPEE, et al.,  
Plaintiffs,

v.

MURPHY OIL USA, INC., et al.  
Defendants.

MESA PETROLEUM and  
PIONEER NATURAL RESOURCES,  
USA, INC.,

Defendants/Third  
Party Plaintiffs, and  
Cross-Plaintiffs,

v.

AMARCO RESOURCES CORP.  
BESTWAY INC.; WESTDALE  
PETROLEUM INC.; and THE  
PRUDENTIAL GROUP,

Third Party  
Defendants,

v.

JOHN DOES 4-50,

Cross-Defendants.

Cause No. CV 98-108-BLG-JDS  
Judge Jack D. Shanstrom

NOTICE OF TAKING DEPOSITION  
OF ALLEN YOUPEE AND REQUEST  
FOR PRODUCTION OF  
DOCUMENTS



1 TO: Alan Youpee and his attorneys of record, Richard J. Dolan and Brian  
2 Gallik, Goetz, Gallik, Baldwin & Dolan, P.C., P.O. Box 428, Bozeman, MT 59771-  
3 0428:

4 PLEASE TAKE NOTICE that, pursuant to Rule 26, M.R.Civ.P., the undersigned will  
5 take the deposition of Alan Youpee, on Wednesday, the 13<sup>th</sup> day of June, 2001, beginning at  
6 8:00 p.m., or as otherwise arranged by the parties, at the Sherman Motor Inn, located a 200  
7 East Main, Wolf Point, Montana, before a Notary Public of the State of Montana, or such other  
8 person qualified by law to administer oaths in the state of Montana.

9 The Deponent is requested to produce at such deposition all of the following  
10 documents and/or materials:

- 11 1. all information which may be relevant to claims and requests for damages  
12 made by plaintiffs in this action.

13 DATED this 25 day of May, 2001.

14 BROWN LAW FIRM, P.C.

15  
16  
17 By   
18 JOHN WALKER ROSS

CERTIFICATE OF SERVICE

This is to certify that the foregoing was duly served on counsel of record by U.S. mail, postage prepaid and addressed as follows this 15 day of July, 2001.

Michael E. Webster  
Carolyn Ostby  
Crowley Law Firm  
P.O. Box 2529  
Billings, MT 59103-2529  
*Attorneys for Murphy Defendants*

Robert Sterup  
Dorsey & Whitney, LLP  
P.O. Box 7188  
Billings, MT 59103  
*Attorneys for Samson Resources Company*

Gerald Murphy  
Moulton, Bellingham, Longo & Mather  
PO Box 2559  
Billings, MT 59103-2559

  
BROWN LAW FIRM

# PRIVATE WATER SYSTEM BACTERIOLOGICAL WATER ANALYSIS

SEE REVERSE SIDE FOR INSTRUCTIONS

Astro-Chem Lab, Inc.

P.O. Box 972 - Williston, ND 58802-0972

Phone (701) 572-7355

## ★ LEFT SIDE OF FORM TO BE COMPLETED BY COLLECTOR ★

Name of Collector		Phone No.
Date Collected 5-21-01	Time Collected 3:55 PM	
Sampling Point		
Remarks		

### Sample Source (check one):

- ☒ Domestic Well      ☐ Cistern  
☐ Spring      ☐ Irrigation Well  
☐ Public drinking water system      ☐ Private swimming pool  
☐ Stock well      ☐ Other

### Reason for Sample (check one):

- ☐ Routine      ☐ Retest      ☐ Mortgage Requirement  
☐ ND Dairy Dept. - Assigned ID No. \_\_\_\_\_  
☐ USDA Required      ☐ Required by other state federal regulations  
☐ Water treatment check (raw or treated)  
☐ Special purpose (explain) \_\_\_\_\_

## WATER SUPPLY INFORMATION FOR PRIVATE SYSTEMS

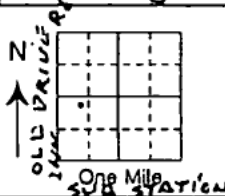
Location (townsite name): **NORTH POPLAR ALLEN F. YUPEE # 39**

Township No. **38** Range No. **51 EAST** Section No. **33**

### Mark Location on Sketch

Well Depth **130'** ft.

Well Diameter **6"** in.



Owner **ALLEN FRANK YUPEE**

Send Results to (if other than owner):

Address

City

State

Zip Code

STOP! RIGHT SIDE OF FORM IS FOR LABORATORY USE ONLY.

FOR LABORATORY USE ONLY

Lab Number **#1002**  
 Date & Time of Receipt **5-21-01 3:55 PM**  
 Date & Time of Analysis **5-22-01 11:00 AM**  
 Date Results Reported **5-29-01**  
 Analyst **Chris Hager**

### ANALYSIS METHOD

- ☐ Fermentation Tube      ☐ Membrane Filter  
☒ Presence - Absence      ☐ MMO-ONPG  
☐ Other

### COLIFORM ANALYSIS

- ☒ Coliforms Not Found - Satisfactory  
☐ Coliforms Present - UNSATISFACTORY - SEND REPEAT SAMPLES  
☐ Fecal Coliforms Present - UNSATISFACTORY  
☐ E. coli PRESENT - UNSATISFACTORY

Coliforms per 100 ml \_\_\_\_\_ Fecal coliforms per 100 ml \_\_\_\_\_

### SAMPLE VOIDED - SEND REPLACEMENT

- ☐ Turbid Without Gas Production  
☐ Too Numerous to Count  
☐ Confluent Growth  
☐ Turbid Without Acid Reaction  
☐ Sample too old  
☐ Other

STANDARD PLATE COUNT PER ML \_\_\_\_\_

- ☐ Satisfactory      ☐ Unsatisfactory

NITRATE-N \_\_\_\_\_ mg/l

- ☐ Satisfactory      ☐ Unsatisfactory      ☐ Result to Follow

EXHIBIT

3A

# ASTRO-CHEM LAB, INC.

4102 2nd Ave. West

Williston, North Dakota 58801  
P.O. Box 972

Phone 701-572-7355

## WATER ANALYSIS REPORT

SAMPLE NUMBER W-93-0761

DATE OF ANALYSIS 4-2-93

COMPANY

CITY Williston

STATE ND

WELL NAME AND/OR NUMBER

DATE RECEIVED 4-1-93

DEPTH

SAMPLE SOURCE

LOCATION

OF SEC.

TWN.

RANGE

COUNTY

DISTRIBUTION

33

28

51 EAST

ROOSEVELT MT.

CONDUCTIVITY @ 77°F = 749.0  $\mu$ MHOS/cm

pH = 8.24

RESIDUAL SODIUM CARBONATE = -0.80 MEQ/L

HARDNESS = 17.5 Grains/gal

SODIUM ADSORPTION RATIO = 0.96

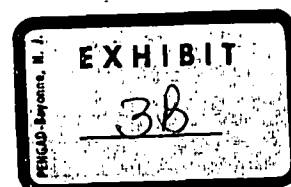
HARDNESS = 300 mg/L

TOTAL DISSOLVED SOLIDS (CALCULATED) = 520 mg/L

SODIUM CHLORIDE (CALCULATED) = 83 mg/L

CATION	MEQ/L	mg/L	ANION	MEQ/L	mg/L
CALCIUM	4.3	85	CHLORIDE	1.4	50
MAGNESIUM	1.7	19	CARBONATE	0.0	0
SODIUM	1.7	38	BICARBONATE	5.2	317
IRON	0.0	0.0	SULFATE	0.0	0
POTASSIUM	0.1	5	NITRATE-N	0.4	5.2

REMARKS



# ASTRO-CHEM LAB, INC.

4102 2nd Ave. West

Williston, North Dakota 58802-0972  
P.O. Box 972

Phone: (701) 572-7355

## WATER ANALYSIS REPORT

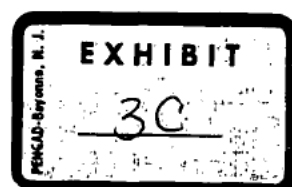
SAMPLE NUMBER    W-01-1345                      DATE OF ANALYSIS    5-21-01  
COMPANY    Allen Frank Youpee  
CITY    Poplar    STATE    MT  
WELL NAME AND/OR NUMBER    Private Well  
DATE RECEIVED    5-21-01                      DEPTH  
SAMPLE SOURCE    Well  
LOCATION                      OF SEC.                      TWN.                      RANGE                      COUNTY  
DISTRIBUTION    Allen Frank Youpee  
                         Poplar, MT

CONDUCTIVITY @ 77°F = 1134.8  $\mu$ MHOS/cm                      pH = 9.42  
RESIDUAL SODIUM CARBONATE = 8.39 MEQ/L                      HARDNESS = 1.7 Grains/gal  
SODIUM ADSORPTION RATIO = 17.55                      HARDNESS = 28 mg/L  
TOTAL DISSOLVED SOLIDS (CALCULATED) = 893 mg/L  
SODIUM CHLORIDE (CALCULATED) = 96 mg/L

CATION	MEQ/L	mg/L	ANION	MEQ/L	mg/L
CALCIUM	0.1	2	CHLORIDE	1.6	58
MAGNESIUM	0.5	6	CARBONATE	1.0	30
SODIUM	9.7	223	BICARBONATE	8.0	488
IRON	0.0	0.2	SULFATE	1.6	77
POTASSIUM	0.2	8	NITRATE-N	0.0	0.4

REMARKS    Date Sampled 5-21-01 @ 1:35 PM

ANALYZED BY:    C. Hagen



JOHN WALKER ROSS  
Brown Law Firm, P.C.  
315 North 24th Street  
P.O. Drawer 849  
Billings, MT 59103-0849  
(406) 248-2611

*Attorneys for Defendants MESA  
Petroleum Co., Pioneer Natural  
Resources Company and Pioneer  
Natural Resources USA, Inc.*

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USA, INC.,

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Party Plaintiffs, and  
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AMARCO RESOURCES CORP.  
BESTWAY INC.; WESTDALE  
PETROLEUM INC.; and THE  
PRUDENTIAL GROUP,

Third Party  
Defendants,

v.

JOHN DOES 4-50,  
Cross-Defendants.

Cause No. CV 98-108-BLG-JDS  
Judge Jack D. Shanstrom

NOTICE OF TAKING DEPOSITION  
OF DENISE GRAINGER AND  
REQUEST FOR PRODUCTION OF  
DOCUMENTS



1 TO: Denise Grainger, and her attorneys of record, Richard J. Dolan and Brian Gallik,  
2 Goetz, Gallik, Baldwin & Dolan, P.C., P.O. Box 428, Bozeman, MT 59771-0428:

3 PLEASE TAKE NOTICE that, pursuant to Rule 26, M.R.Civ.P., the undersigned will  
4 take the deposition of Denise Grainger on Wednesday, the 13<sup>th</sup> day of June, 2001, beginning  
5 at 2:00 p.m., or as otherwise arranged by the parties, at the Sherman Motor Inn, located at  
6 200 East Main, Wolf Point, Montana, before a Notary Public of the State of Montana, or such  
7 other person qualified by law to administer oaths in the state of Montana.

8 The Deponent is requested to produce at such deposition all of the following  
9 documents and/or materials:

- 10 1. all information which may be relevant to claims and requests for damages  
11 made by plaintiffs in this action.

12 DATED this 25 day of May, 2001.

13 BROWN LAW FIRM, P.C.

14  
15  
16 By 

17 JOHN WALKER ROSS  
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25 day of May

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BROWN LAW FIRM

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF INDIAN AFFAIRS

LEASE  
Allotted

Lease No.

Document No.

D. Grainger

THIS LEASE, made and entered into this 2nd day of June 19 87, by and between Francis P. Renz, Allotment # 791, hereinafter called the "LESSOR", and the Fort Peck Housing Authority, hereinafter called the "LESSEE", in accordance with existing law and regulations (25 CFR 131) which by reference are made a part hereof, and subject to the approval of the Secretary of the Interior or his duly authorized representative acting under delegated authority.

WITNESSETH:

The parties hereto for the consideration hereinafter mentioned do covenant and agree as follows:

1. PREMISES. The Lessor hereby leases to the Lessee the following real property located in the Roosevelt County, State of Montana, described as follows:  
NE 1/4 NW 1/4 NW 1/4 Section 33, T28, R51 Poplar, Montana

The above property will comprise one dwelling site.

2. USE OF PREMISES. The premises shall be used for the purpose of constructing a home and its appurtenances, under the Public Housing Project, with the financial assistance of Housing & Urban Dev., hereinafter called the lender, a(n) Agency that makes, guarantees, or insures loans, and for such other purposes, not inconsistent with the foregoing as may be approved by the Lessor and the lender.

3. TERM. Lessee shall have and hold the described premises with their appurtenances for a term of 25 years beginning on the date of approval by the Secretary. This lease shall automatically and without notice renew for an additional term of 25 years on the same terms and conditions contained herein. This lease may not be terminated by either or both parties during the term provided herein if and so long as the lease and/or any improvements on the leased premises, or any interest therein are mortgaged, or pledged or encumbered as security for any loan to the lender or its successors pursuant to an authorized encumbrance instrument, unless the lender or successor, consents in writing to such termination agreed upon by the Lessor and Lessee.

4. CONSIDERATION FOR LEASE. In consideration of the Lessor entering into the lease, the Lessee shall pay the Lessor for use of the premises rent at the rate of one dollar (\$1.00) for each 25 year term, payment to be made for each term in advance. It is agreed that there shall be no adjustment of these payments in the event that any part of the leased premises is taken by condemnation for highway or other public purposes. It is further agreed that this lease or any part thereof including this paragraph shall not be construed to prejudice the rights or impair the prosecution of any claim of the Lessee arising out of such condemnation proceeding.

5. SUBLEASES. The Lessee is hereby authorized to make subleases of its leasehold interests in connection with the construction, development, and occupancy of the house on the leased premises subject to the limitations of term and other conditions or limitations of this lease.

6. ASSIGNMENTS. This lease shall not be assigned, in whole or in part without the prior written consent of the Lessor or the Secretary, and the lender, during the period that the lender has a financial interest in the project, provided that the Lessee may assign this lease or deliver possession of the premises to the United States of America without the consent of the Lessor or Secretary in the event of the issuance of a Notice of substantial Default, of substantial breach of any financial assistance contract between the Lessee and the United States.

7. IMPROVEMENTS. All improvements shall remain the property of the Lessee, sublessee or assignee until the expiration of the lease. All such improvements shall then become the property of the Lessor at the expiration or termination of this lease.

8. INSURANCE. Lessee agrees to obtain and maintain for owner's, landlord's, and tenant's public liability insurance, excluding property damage, at no cost to and in amounts acceptable to the Lessor and the lender. It is understood and agreed that the term "owners" includes both the United States and the Lessor. The Lessee and its assigns shall hold the Lessor and the United States harmless from any claim of whatsoever nature arising out of the use or occupancy of the leased or subleased premises.

9. RELINQUISHMENT OF SUPERVISION BY THE SECRETARY. Nothing contained in this lease shall operate to delay or prevent a termination of Federal trust responsibilities with respect to the land by the issuance of a fee patent or otherwise during the term of the lease; however, such termination shall not serve to abrogate the lease. The owners of the land, the lender, and the Lessee shall be notified by the Secretary of any such change in the status of the land.

10. SHARE OF BENEFIT FROM LEASE. No member of Congress or any delegate thereto or any resident Assistant Secretary for Indian Affairs shall be admitted to any share or part of this lease or to any benefit that may arise herefrom.

11. VIOLATIONS OF LEASE. It is understood and agreed that violations of this lease shall be acted upon in accordance with the regulations in 25 CFR 131.

12. QUIET ENJOYMENT. Lessor agrees to defend the title of the leased premises and also especially agrees that Lessee and its tenants shall peaceably and quietly hold, enjoy and occupy the leased premises for the duration of this lease without any hindrance, interruption, ejection or molestation by Lessor or by any other person or persons whomsoever.



000133

13. SURRENDER OF POSSESSION. Upon the expiration or other termination date of this lease, the Lessee, sublessee, assignee shall without further action by Lessor, remove themselves from and surrender to the Lessor, complete and peaceable possession of the premises. No further occupancy or use rights are implied or granted by the provisions of this lease.

14. UNLAWFUL CONDUCT. The Lessee agrees not to use or cause to be used any part of said premises for any unlawful conduct or purposes.

15. ASSENT NOT WAIVER OF FUTURE BREACH OF COVENANTS. No assent, express or implied to any breach of any of the Lessee's covenants, shall be deemed to be a waiver of any succeeding breach of any covenants.

16. UPON WHOM BINDING. It is understood and agreed that the covenants and agreements hereinbefore mentioned shall extend to and be binding upon the heirs, assigns, successors, executors, and administrators of the parties of this lease. While the leased premises are in trust or restricted status, all of the Lessee's obligations under this lease, and the obligations of its sureties, are to the United States as well as to the Lessor.

17. ENCUMBRANCE. Lessee may, with approval of the Secretary, mortgage, pledge or otherwise encumber the lease or improvements on the leased premises as may be necessary and appropriate under a Federal financial assistance contract between the Lessee and \_\_\_\_\_, the lender. Provided, that Lessee shall not, without the prior written consent of the Lessor and Secretary and written approval of \_\_\_\_\_ the lender mortgage, pledge or encumber this lease or any interest in this lease or improvements on the leased premises when a prior, existing mortgage, pledge or encumbrance is in force with \_\_\_\_\_ the above lender or any other Federal or non-Federal agency. Nothing in this lease shall prevent \_\_\_\_\_ the lender or other lender under an authorized encumbrance, from taking the necessary actions. If a sale or foreclosure occurs under the approved encumbrance the encumbrances may assign the leasehold interest only with the approval of the Secretary and purchaser's will be bound by the terms of this lease and will assume all obligations thereunder in writing.

18. MINERALS. Lessor excepts and reserves to itself, its successors, and its assigns, all oil, gas, coal, and minerals whatsoever, already found or which may hereafter be found, upon or under the premises, with the right to prospect for, mine, and remove the same. Lessor agrees not to exercise, or allow others to exercise, its rights to enter upon the surface of the premises, or use within a depth of 200 feet, the subsurface of the premises, provided, however, that the Lessor shall have the rights to explore, develop and extract minerals from the premises by operations carried on from adjoining lands.

19. DEFINITIONS. Secretary as used in this lease means the Secretary of the Interior or his duly authorized representative acting under delegated authority.

TO BE USED WHEN THE SITE IS ON INDIVIDUALLY OWNED TRUST LAND.

In Witness Whereof, the parties hereto have hereunto set their hands on the date first above written.

Harold A. Cain  
WITNESS

WITNESS

WITNESS

WITNESS

WITNESS

WITNESS

WITNESS

WITNESS

Harold (B. H.) Jones  
LESSOR

Monis A. Buckler  
LESSOR

LESSOR

LESSOR

Fort Peck  
HOUSING AUTHORITY, LESSEE

Ben Gray Hawk  
CHAIRMAN

Pearl Hogan  
SECRETARY

The within lease is hereby approved:

INTERIOR

000134

*State law requires that this form be filed by the water well driller within 60 days after completion of the well.*

A white rectangular label with a black border. The word "EXHIBIT" is printed vertically in bold, black, sans-serif capital letters on the left side. To the right of "EXHIBIT", the number "6" is handwritten in blue ink. The label is placed on a dark, textured surface.

MONTANA DEPARTMENT OF NATURAL RESOURCES &amp; CONSERVATION

**444-6610**

# <sup>TM</sup>DNRC

DRILLER: Please give this copy to the well owner to complete reverse side.  
OWNER: Complete reverse side of Form 602 and send to DNRC.

000135

Client: PHS Indian Health Service Date April 13, 1989  
 Identification: D. Grainger Job No. 87-952  
 Laboratory Number: 96272 Sheet 3 of 3  
 Date Sampled: 3/17/89

Date Analy

pH, standard units:	7.4			3/29/89
Conductivity, umhos/cm:	2630			4/07/89
Total Dissolved Solids				
(at 180 C), mg/l:	1820			3/31/89
Sodium Adsorption Ratio (SAR):	6.48			

## CATIONS

Total Hardness as CaCO <sub>3</sub> :	665	mg/l	13.30	meq/l	
Calcium as Ca:	123	mg/l	6.14	meq/l	4/05/89
Magnesium as Mg:	87	mg/l	7.16	meq/l	4/05/89
Sodium as Na:	384	mg/l	16.70	meq/l	4/05/89
Potassium as K:	8	mg/l	0.20	meq/l	4/05/89
Total Cations:			30.20	meq/l	

## ANIONS

Total Alkalinity as CaCO <sub>3</sub> :	604	mg/l	12.08	meq/l	3/30/89
Bicarbonate Alkalinity as HCO <sub>3</sub> :	737	mg/l	12.08	meq/l	
Carbonate Alkalinity as CO <sub>3</sub> :	0	mg/l	0.00	meq/l	
Hydroxide Alkalinity as OH:	0	mg/l	0.00	meq/l	
Chloride as Cl:	47	mg/l	1.33	meq/l	4/11/89
Fluoride as F:	0.32	mg/l	0.02	meq/l	4/11/89
Nitrate + Nitrite as N:	0.08	mg/l	0.01	meq/l	4/07/89
Sulfate as SO <sub>4</sub> :	812	mg/l	16.91	meq/l	3/31/89
Total Anions:			30.35	meq/l	
Cation-Anion Difference:			0.15	meq/l	

Total Iron as Fe	1.35	mg/l		4/06/89
Total Manganese as Mn	0.22	mg/l		4/06/89

000136



Physical properties and major-ion concentrations in water samples collected from D. Grainger's well in the East Poplar oil field, Fort Peck Indian Reservation, northeastern Montana

Site number	Geologic unit	Depth of well (feet)	Collecting agency	Analyzing agency <sup>2</sup>	Date sample collected	Specific conductance, onsite ( $\mu\text{S}/\text{cm}$ )	pH, onsite (standard units)	Water temperature, onsite ( $^{\circ}\text{C}$ )	Density (g/mL at $20^{\circ}\text{C}$ )	Hardness, total (mg/L as $\text{CaCO}_3$ )	Calcium, dissolved (mg/L as Ca)
28N51E33BBBB01	Qt	120	--	CHNO	03-17-89	2,630	7.4	--	--	660	120
			USGS	USGS	08-24-90	2,670	7.1	11.0	--	760	140
			USGS	USGS	09-03-97	3,330	7.3	9.5	--	170	170

<sup>1</sup> Laboratory measurement.

<sup>2</sup> CHNO, Chen-Northern, Inc.; USGS, U.S. Geological Survey.

Magnesium, dissolved (mg/L as Mg)	Sodium, dissolved (mg/L as Na)	Sodium adsorption ratio	Potassium, dissolved (mg/L as K)	Alkalinity, onsite (mg/L as $\text{CaCO}_3$ )	Sulfate, dissolved (mg/L as $\text{SO}_4$ )	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)	Bromide, dissolved (mg/L as Br)	Iodide, dissolved (mg/L as I)	Dissolved solids, computed (mg/L)	Site number
87	380	6	8	604	810	47	.3	--	--	1,810	28N51E33BBBB01
100	400	6	6.4	660	1,000	40	.3	1.6	.190	2,120	
120	433	6	6.9	642	1,100	76				2,370	



000137



# United States Department of the Interior

U.S. GEOLOGICAL SURVEY  
Water Resources Division  
Federal Building, Room 428  
301 South Park Avenue, Drawer 10076  
Helena, Montana 59626-0076

January 13, 1998

Ms. Denise Grainger  
[REDACTED]  
[REDACTED]

Dear Ms. Grainger:

Enclosed for your information are the results of a chemical analysis of water collected from your well during September 1997.

As a basis for comparison, we have enclosed a Montana Bureau of Mines Form 196, compiled by Dr. John Sondereggar, which lists some of the water-quality criteria established by the U.S. Environmental Protection Agency (EPA), and also explains the significance of some of the water-quality parameters.

We appreciate your cooperation in allowing us to obtain the water sample. If you have any questions concerning the analytical results, please feel free to call me at 406-441-1319.

Sincerely,

Joanna N. Thamke  
Hydrologist

Enclosures

000138



# WATER-QUALITY PARAMETERS AND THEIR SIGNIFICANCE

CONSTITUENT OR PHYSICAL PROPERTY	SOURCE OR CAUSE	SIGNIFICANCE
Calcium (Ca) and Magnesium (Mg)	Dissolved from almost all soils and rocks but especially from limestone, dolomite, and gypsum. Calcium and magnesium are found in large quantities in some brines. Magnesium is present in large quantities in sea water.	Cause most of the hardness and scale-forming properties of water; soap consuming. (See hardness). Waters low in calcium and magnesium desired in electroplating, tanning, dyeing, and textile manufacturing.
Sodium (Na) and Potassium (K)	Dissolved from almost all rocks and soils. Found also in ancient brines, some industrial brines, sea water, and sewage.	Large amounts give a salty taste when combined with chloride. Moderate quantities have little effect on the usefulness of water for most purposes. Sodium salts may cause foaming in steam boilers, and a high sodium adsorption ratio may limit the use of water for irrigation. The Montana Water Quality Bureau advises that concentrations greater than 270 mg/l may be harmful to persons on sodium-restricted diets.
Iron (Fe)	Dissolved from almost all rocks and soils. May also be derived from iron pipes, pumps, and other equipment.	On exposure to air, iron in ground water oxidizes to reddish-brown sediment. More than about 0.3 mg/l stains laundry and utensils reddish brown. Objectionable for food processing, beverages, dyeing, bleaching, ice manufacture, brewing, and other processes. Iron and manganese together should not exceed 0.3 mg/l. Larger quantities cause unpleasant taste and favor growth of iron bacteria but do not endanger health. Excessive iron may also interfere with the efficient operation of exchange-silicate water softeners. Iron may be removed from water by aeration of the water, followed by settling or filtration.
Manganese (Mn)	Dissolved from some rocks and soils. Not as common as iron. Large quantities often associated with high iron content and with acid waters.	Same objectionable features as iron. Causes dark-brown or black stain. Iron and manganese together should not exceed 0.3 mg/l for taste and aesthetic reasons.
Silica (SiO <sub>2</sub> )	Dissolved from almost all rocks and soils, usually in small amounts--5 to 30 milligrams per liter (mg/l).	Forms hard scale in pipes and boilers. Carried over in steam of high-pressure boilers to form deposits on blades of steam turbines. Inhibits deterioration of zeolite-type water softeners.
Bicarbonate (HCO <sub>3</sub> ) and Carbonate (CO <sub>3</sub> )	Action of carbon dioxide in water on carbonate rocks such as limestone and dolomite, oxidation or organic carbon.	Bicarbonate and carbonate produce alkalinity. Bicarbonates of calcium and magnesium in steam boilers and hot-water facilities form scale and release carbon dioxide gas.
Chloride (Cl)	Dissolved from rocks and soils. Present in sewage and found in large amounts in ancient brines, sea water, and industrial brines.	Chloride salts in excess of 100 mg/l give salty taste to water. When combined with calcium and magnesium may increase the corrosive activity of water. It is recommended that chloride content should not exceed 250 mg/l.
Sulfate (SO <sub>4</sub> )	Dissolved from rocks and soils containing gypsum, iron sulfides, and other sulfur compounds. Usually present in some industrial wastes.	Sulfate in water containing calcium forms hard scale in steam boilers. In large amounts, sulfate in combination with other ions gives bitter taste to water. Concentrations above 250 mg/l may have a laxative effect, but 500 mg/l is considered safe. Some calcium sulfate is beneficial in the brewing process. Domestic waters in Montana containing as much as 1,000 mg/l sulfate are used for drinking in the absence of a less mineralized water supply.
Nitrate (NO <sub>3</sub> ; reported as N)	Decaying organic matter, sewage, nitrates in soil, and chemical fertilizers.	Concentrations much greater than the local average may suggest pollution. High concentrations are generally a characteristic of individual wells and not of whole aquifers. Nitrate has been shown to be helpful in reducing inter-crystalline cracking of boiler steel. It encourages growth of algae and other organisms, which produce undesirable tastes and odors. There is evidence that more than about 10 mg/l may cause a type of methemoglobinemia ("blue babies") in infants, which may be fatal.
Fluoride (F)	Dissolved in small to minute quantities from most rocks and soils. Most hot and warm springs contain more than the recommended concentration of fluoride.	Fluoride in drinking water reduces the incidence of tooth decay in children when the water is consumed during the period of enamel calcification, but it may cause mottling of the teeth, depending on the concentration of fluoride, the age of the child, the amount of drinking water consumed, and the susceptibility of the individual. 0.8 to 1.7 mg/l is optimum, depending upon the air temperature.
Hydrogen-ion activity (pH)	Acids, acid-generating salts, and free carbon dioxide lower pH. Carbonates, bicarbonates, hydroxides, and phosphates, silicates, and borates raise the pH.	The pH is a measure of the activity of the hydrogen ions. A pH of 7.0 indicates neutrality of a solution. Values higher than 7.0 denote increasing alkalinity; values lower than 7.0 indicate increasing acidity. Corrosiveness of water generally increases with decreasing pH, but excessively alkaline waters may also attack metals. Accurate pH measurements can be made only at the well. Laboratory values will vary somewhat from the real value. A pH range between 6.0 and 8.5 is acceptable and is normal for most waters in Montana.
Dissolved solids	Chiefly mineral constituents dissolved from rocks and soils. Includes all material that is in solution in the water.	Dissolved solids should not exceed 1,000 mg/l, but 1,000 mg/l is acceptable for drinking water if no other supply is available. Amounts exceeding 1,000 mg/l are unacceptable for most uses.

Compiled by Dr. John Sonderegger

000139

CONSTITUENT OR PHYSICAL PROPERTY	SOURCE OR CAUSE	SIGNIFICANCE
Specific conductance	Dissolved minerals in the water.	Specific conductance is a measurement of the water's capacity to conduct an electric current. This varies with temperature and the degree of ionization of the constituents. When measured in micromhos per centimeter, it is generally 1.0 to 1.5 times the total dissolved-solids content.
Hardness as $\text{CaCO}_3$	In most water nearly all the hardness is due to calcium and magnesium. All the metallic cations besides the alkali metals also cause hardness.	Hard water consumes soap before a lather will form, deposits soap curd on bathtubs, and forms scale in boilers, water heaters, and pipes. Hardness equivalent to the bicarbonate and carbonate is called carbonate hardness. Any hardness in excess of this is called noncarbonate hardness. Waters of hardness as much as 60 mg/l are termed soft; 61 to 120 mg/l moderately hard; 121 to 180 mg/l hard; and more than 180 mg/l very hard.
Alkalinity (as $\text{CaCO}_3$ )	Formed by the presence of certain anions in solution. Certain organic materials may also produce alkalinity.	Alkalinity is an indicator of the relative amounts of carbonate, bicarbonate, and hydroxide ions.
Sodium Adsorption Ratio	The SAR is defined by the equation: $\text{SAR} = \text{Na} / (\text{Ca} + \text{Mg}) / 2$ where the concentrations are expressed in milliequivalents per liter.	High sodium concentration combined with low alkaline-earth element concentration usually reduces soil tilth and affects plant growth.
Hydrogen sulfide ( $\text{H}_2\text{S}$ )	Natural decomposition of organic material and from the reduction of sulfates.	Causes objectionable odor when in concentration above 1 mg/l and taste when in excess of .05 mg/l. Presence may limit water's usefulness in the food and beverage industry.
Trace metals	Dissolved from rocks and soils. Some metals may be released from plumbing pipes, etc. The recommended limits are presented in the attached table.	Limits are usually recommended for health reasons. Limits for drinking water normally are conservative, and higher concentrations may be permitted if the water is the best available supply (e.g., copper).

<sup>1</sup> Items with asterisk (\*) are termed "maximum contaminant levels" for public water systems (Federal Register, December 24, 1975, p. 59566-59588), all other values are recommended limits; (—) indicates the absence of a recommended limit.

<sup>2</sup> Fill in the appropriate values. If (<) appears, this means below our detection level.

<sup>3</sup> Values vary, poultry generally being the most sensitive, beef cattle and sheep the least sensitive. See footnote 4.

<sup>4</sup> Limits for crops and stock vary. Consult your County Extension Agent for specific information relating to your soils and crops or animals; limits for continuous irrigation (which are lower) were used for this table.

<sup>5</sup> Limit depends upon temperature and may be higher (as much as 2.4) in the colder areas of Montana.

<sup>6</sup> In pH units.

<sup>7</sup> In microhos per centimeter ( $\mu\text{mho/cm}$ ).

<sup>8</sup> Recent work (Geotimes, January, 1978, p. 28) suggests 200 may be a more reasonable value; this is a result of improved analytical data.

a. Recommended limits vary widely; consumption may be reduced because of taste.

b. Inadequate data, but values above 100 mg/l seem to be undesirable, and most reports of nitrate poisoning of cattle are associated with values > 500 mg/l.

c. No value known to be established; any concentration > 10 seems to be undesirable; some authorities believe that the 2.0 limit for human consumption should be used. Organic mercury is more toxic than inorganic mercury. The analytical method employed measures all forms of mercury.

d. Copper added to the diet is used to prevent molybdenosis in cattle; consequently, recommended limits vary with Mo content. A tentative limit of 50  $\mu\text{g/l}$  Mo was suggested for drinking water but was never adopted.

e. Limit varies with sodium adsorption ratio and specific conductance.

f. High proportions of sulfate may restrict calcium uptake by crops.

g. Varies with crop; generally dissolved solids should be less than 2,000 mg/l (equivalent to specific conductance of 2,000 to 3,000  $\mu\text{mho/cm}$ ).

000140

Table of recommended and permissible limits for inorganic constituents in water  
(in mg/l unless otherwise noted, except for trace metals which are in  
micrograms ( $\mu$ g) per liter)

Parameter	Drinking <sup>1</sup>	Your analysis <sup>2</sup>	Stock <sup>3</sup>	Irrigation <sup>4</sup>
Calcium (Ca)	--		--	--
Magnesium (Mg)	--		2,000	--
Sodium (Na)	--		2,000	e
Potassium (K)	--		--	--
Iron (Fe)	0.3		a	--
Manganese (Mn)	0.05		a	2.0
Silica (SiO <sub>2</sub> )	--		--	--
Bicarbonate (HCO <sub>3</sub> )	--		--	--
Chloride (Cl)	250.		1,500	--
Sulfate (SO <sub>4</sub> )	250.		1,500	f
Nitrate (NO <sub>3</sub> as N)	10.		b	--
Fluoride (F) <sup>5</sup>	2.0		2.4	--
Phosphate (PO <sub>4</sub> as P)	--		--	--
pH <sup>6</sup>	6.0-8.5		--	4.5-9.0
Dissolved Solids	500.		5,000	2,000-g
Specific Conductance <sup>7</sup>	750.-1,000		--	g
Total Hardness	<300		--	--
Total Alkalinity	30.-500		--	--
Sodium Adsorption Ratio	--		--	8-18
Trace Metals ( $\mu$ g/L)				
Arsenic (As)	50*		50	1,000
Barium (Ba)	1,000*		--	--
Cadmium (Cd)	10*		10	5
Chromium (Cr)	50*		50	5,000
Lead (Pb)	50*		50	5,000
Mercury (Hg)	2*		c	--
Selenium <sup>8</sup> (Se)	10*		10	50
Silver (Ag)	50*		--	--
Aluminum (Al)	--		--	1,000
Ammonia (NH <sub>3</sub> as N)	500		--	--
Boron (B)	1,000		--	750
Copper (Cu)	1,000		d	200
Cobalt (Co)	--		<100	200
Lithium (Li)	--		--	5,000
Molybdenum (Mo)	d		d	5
Nickel (Ni)	--		--	500
Uranium (as UO <sub>2</sub> <sup>2+</sup> )	5,000		--	--
Zinc (Zn)	5,000		5,000	5,000

000141

# ALLOTMENT OR ESTATE RECORD

Allotment No. 794

Identification No. 206-A00794

Mary Ricker

(Allotment)

(Name)

(Other)

(Sex)

Account No. R-255

12/12/16

#372654

2/25/65

K-69-66

1879

(Date of Birth)

Dates 2/8/87

(Allotment Act)

4/18/13

(Allotment approved)

12/18/13

(Trust patent)

(Death)

(Probate No.)

3/15/66

(Decision)

DESCRIPTION

SUBDIVISION

SEC. T (N) R (E) M (M)

ACRES

351.42

DISPOSITION \*

DATE

I. O. FILE NO.

SE; E SW; Lots 6 & 7

6 28 49

310.42

Lot 5

18 27 49

37.13

Original Selection Canceled.

Allotment

SE

6 28 49

160.00

- Fee Pat. #505248 to allottee

12/30/15

106477-15

E SW; Lots 6 & 7

6 28 49

151.42

This part canceled (Change)

12/12/18

113835-16

NE NE

16 28 51

40.00

Lieu Allotment for part Canceled -- Approved 12/12/16 - T.P. #579736

4/23/17

113835-16

\* Removal of restrictions, certificate of discharge, release of patents, sale by approved deed, relinquishment, etc., and all pertinent information showing disposition made of lands.

XXXXXXXXXXXXXXXXXXXX				XXXXXXXXXXXXXXXXXXXX			
XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
3 SW; Lots 6 & 7	6 28 49	151.42	- Fee Pat. #625852 to allottee	4/17/18	4887-18		
NW NE	17 28 51	40.00	- Rest. Deed to Benj. Gray Hawk, #383 (G-32)	3/1/26	5545-26		
Pro. Fee \$30.00 Pd.				(SEE ESTATE LIABILITY CARD FOR CLAIMS) <i>sd</i>			

VIATED SALE IN TRUST, app'd 4/3/67 to William  
ee, 206-A02152, for an und. 2/9 int. in subject  
l. (Reserving to Mary Louise Gray Hawk Hader,  
ther with the right to lease, extract & retain  
same, an und. 2/9 int. in all minerals, including  
, oil & gas to the land described herein. BAO  
rding 206 16870. Josephine Gray Hawk also  
nguished her dower int. in the land herein conveyed

RESTRICTED DEED, APPROVED 12/13/66, to William Youpee 206-A02152,  
for an und. 7/9 interest in the NWNE, sec. 17-28-51 40-acres.  
Reserving to the USA in trust for Josephine Gray Hawk an und. 3/9 int  
Benjamin Gray Hawk Jr., & Stephen Gray Hawk, an und. 2/9 int. each  
their undivided interests in all minerals, including coal, oil & gas  
in the land. BAO record ing 206 16695. Josephine Gray Hawk also  
extinguished her dower interest in the land herein conveyed.

EXHIBIT

10

CONTINUATION SHEET No. \_\_\_\_\_

Allotment No. 794 Name of allottee Mary Ricker Probate No. \_\_\_\_\_

			(Allotment)	(Name)	(Other)	
Account No.	Identification No.	Allotment No.	Name of Heir	Relation to Deceased	Share	Verified by Examiner
(1).....	G.I. DEED:	approved	January 20, 1988, wherein William Youpee, 206-A02152, owner through conveyance, conveyed			
(2).....		to Josephine Youpee, 206-U07843, the NW/4NE/4 sec. 17, T. 28 N., R. 51 E., PM4, containing 40.00 acres, more				
(3).....		or less. Within an Irrig. Unit. Subject to all valid existing rights of way of record. Minerals reserved				
(4).....		in previous conveyance. BAD Document No. 206-26178.				
(5).....						
(6).....						
(7).....						
(8).....						
(9).....						
(10).....						
(11).....						
(12).....						
(13).....						
(14).....						
(15).....						
(16).....						
(17).....						
(18).....						
(19).....						
(20).....						

BUREAU OF INDIAN AFFAIRS  
**ALLOTMENT OR ESTATE RECORD**

Allotment No. 1096

Identification No. \_\_\_\_\_

Helen Youpee Brush Horn

(Allotment)

(Name)

Fort Peck

(Reservation)

Roosevelt

(County)

F

(Box)

Account No. Y-23

Dates 2/8/87

(Allotment Act)

4/18/13

(Allotment approved)

#372948

12/19/13

(Trust patent)

2/15/84

(Death)

IP-BI-583B-84

(Probate No.)

1885

(Date of Birth)

11/14/85

(Decision)

DESCRIPTION SUBDIVISION	SEC.	T(N)	R(M)	M(E)	ACRES	DISPOSITION	DATE	I.O. FILE NO.
					<u>360.00</u>			
S	35	30	51		320.00	Original Selection Canceled		
SW SE	8	27	50		40.00			
<u>Allotment</u>						- T.P. #372948 issued	12/19/13	87140-11
S	35	30	51		320.00	- Fee Pat. #605136 to allottee	10/26/17	50599-16
SE SW	9	28	51		40.00	- This part of original allotment canceled		
<u>Lieu Allotment for part canceled</u>						- approved 9/20/21, T.P. #828914	10/20/21	59972-21
NE NE	17	28	51		40.00	REST. DEED issued to William Youpee, #2152 approved	6-2-65	206-15978

\* Removal of restrictions, certificate of competency, issuance of fee patents, sale by approved deed, relinquishment, etc., and all pertinent information showing disposition made of lands.

**HEIRSHIP FEE, \$**

**CLAIMS ALLOWED AGAINST ESTATE**

NAME OF PAYOR	PAYMENTS		OFFICIAL RECEIPT NO.	NAME OF CLAIMANT	AMOUNT OF CLAIM	PAYMENTS		BALANCE
	Date	Amount				Date	Amount	
*Reserving to the USA in trust for Helen Youpee Brushhorn, her heirs and assigns, together with the right to lease, extract and retain the same, all minerals, including coal, oil and gas to the lands described.								

**EXHIBIT**

11

Allotment No. 1096 Name of allottee Helen Youpee British Horn

(Allotment)

(Name)

(Other)

Probate No.

Account No.	Identification No.	Allotment No.	Name of Heir	Relation to Deceased	Share	Verified by Examiner
(1)			CONSOLIDATION OF OWNERSHIP			
(2)					NE 1/4 sec. 17-28-51, cont. 40.00 acres	
(3)					SURFACE	MINERALS
(4)	206-AQ1097		Elizabeth Y. Manning, Est.		None	7/56
(5)	206-AQ1098		Edith Y. Sigana, Est.		None	7/56
(6)	206-AQ2152		William Youpee		ALL	None
(7)	206-AQ2833		Helen Y. Red Bird		None	7/56
(8)	206-AQ3020		Lester A. Youpee		None	7/56
(9)	206-AQ3222		Leroy W. Youpee		None	7/56
(10)	206-AQ3455		Lloyd W. Youpee		None	7/56
(11)	206-UQ4386		Richard Yellow Owl		None	1/56
(12)	206-UQ4979		Helen Y. Ricker		None	7/56
(13)	206-UQ5021		Francis Y. Nation		None	1/56
(14)	206-UQ7858		Louis Youpee, Jr.		None	1/56
(15)	206-UQ7857		Kathy Y. Russette		None	1/56
(16)	206-UQ8601		Darrell D. Youpee		None	1/56
(17)	206-UQ6317		Jewel L. Youpee		None	1/56
(18)	206-UQ8602		Eugene L. Youpee		None	1/56
(19)						
(20)						

Use Your  
BIG CARD



1%  
REL E

**MENARDS®**

Minot Store  
101 28th Avenue SE.  
Minot, ND 58701  
(701) 857-8900

Sale Transaction

RE-BAR TIE WIRE-16 G *	
1831061	1.89
2HDL LAV FAUCET *	
6736378	19.88
BATHTUB MOLDING ALMO	
6757360	2.89
3/8C X 1/2IP X 9" SU	
6795458	2.79
3/8C X 1/2IP X 9" SU	
6795458	2.79
LINOLEUM KNIFE	
7095380	2.96
WINDOW CLIPS WP-88	
2417448	1.99
ORIGINAL JERKY *	
2739476	3.99 NT
PLEATED FILTER 20X20	
6331087	1.99
CHOC COVERD CARAMLS	
2737520	1.45
SPRING WATER 1LTR SP	
2733906	0.49
CANDY-BRACHS CARAMEL	
2737588	1.99
TOT	45.10
TA AT 5%	2.06
CITY TAX 2%	0.82
TOTAL SALE	47.98
CHECK # 9872	47.98
199029	

IT HAS BEEN A PLEASURE SERVING YOU!!  
YOUR CASHIER, HOLLY

31959 13 2183 09/12/99 11:16AM 3113

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BIG CARD



1%

REBATE

**MENARDS**

Minot Store  
101 28th Avenue SE.  
Minot, ND 58701  
(701) 857-8900

Sale Transaction

MONTANA RESIDENT

ORDER 99002  
1PC 32" SHOWER BONE  
6714565  
ORDER SUBTOTAL  
END OF ORDER

*RT  
all  
CT*

11.00 NT  
1.00

ORDER 98996  
R13 3.5 X15X32'KFT 8  
1617586  
2X4-8' PREMIUM  
1021017 6 @2.95  
1/2" 4X8 GYPSUM  
1311222 2 @8.10  
1/2" 4X8 WATER RESIS  
1311264  
ORDER SUBTOTAL  
END OF ORDER

*RT  
all*

11.99 NT  
17.94  
16.20 NT  
10.61 NT  
55.64

6' 9" CORNERBEAD  
5591080  
6' 9" CORNERBEAD  
5591080  
250' SHT ROCK TAPE  
5591491  
4-1/2" TAPING KNIFE  
5615461  
1-1/2" PUTTY KNIFE-S  
5615445  
12# A-P JOINT COMPOU  
5591420  
2" PVC SHOWER STALL  
6896179  
2" PVC P-TRAP W/UNIO  
6893185  
PRESSURE GAUGE 0-10  
6911216  
SHOWER STALL ROD WHI \*  
6754185  
POLYSEAMSEAL TUB&TIL  
5639418 3 @3.48  
1HDL SHOWER FAUCET C \*  
6735751  
20/40 SWITCH W/LOW C  
6911261  
30/50 PRESSURE SWITC  
6911229

0.61 NT  
0.61 NT  
2.29 NT  
1.99 NT  
1.37 NT  
3.79 NT  
6.29 NT  
4.29 NT  
3.35 NT  
5.29 NT  
10.44 NT  
44.88 NT  
16.79 NT  
10.88 NT

TOTAL SALE 182.51  
CHECK 300381 382.51  
092101409.  
440800

IT HAS BEEN A PLEASURE SERVING YOU!!  
YOUR CASHIER, GINGER

56007 06 5165 08/11/99 05:00PM 3113

Use Your  1%  
**BIG CARD** **REBATE**

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Minot Store  
101 28th Avenue SE.  
Minot, ND 58701  
(701) 857-8900

Merchandise Return

INV NO 041981  
MONTANA RESIDENT

Original Store : 3113  
Original Register: 06  
Original Trans # : 5165  
Original Date :

2X4-8' PREMIUM DF/L	
1021017 6 @2.99	17.94-NT
ORDER 99085	
2X4-8' STUD/STD+BTR	
1021101 6 @2.55	15.30 NT
ORDER SUBTOTAL	15.30
END OF ORDER	

TOTAL SALE	2.64-
CASH	2.64-
CHANGE	2.64

IT HAS BEEN A PLEASURE SERVING YOU!!  
YOUR CASHIER, CIM

41973 22 8756 08/11/99 08:47PM 3113

SUNRISE HOME CENTER  
307 F STREET, HWY 2 WEST  
PO BOX 1117  
POPLAR, MT 59255-1117  
PHONE: (406) 768-3762

PAGE NO 1

STOP BY AND CHECK OUT THE GREAT SAVING  
IN THE ANNEX STORE.

CUSTOMER NO.	JOB NO.	PURCHASE ORDER NO.	REFERENCE	TERMS	CLERK	DATE	TIME
6023				NET 10TH	JASON	8/14/99	8:36

RENE A MARTELL  
JOSI H YOUPEE  
PO BOX 44  
POPLAR MT-59255-0044

S  
H  
I  
P  
T  
O

DUE DATE: 9/10/99

DOCH 97455

\*\*\*\*\*

\* INVOICE \*

\*\*\*\*\*

TAX : 40.00 001 MONTANA NO TAX

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	QUANTITY	UNITS	PRICE/PER	EXTENSION
2		EA	SCREWS	DRYWALL SCREWS (PER LB)		2	4.00 /EA	8.00 H
1		EA	04	NAILS		1	1.20 /EA	1.20 H

\*\* AMOUNT CHARGED TO STORE ACCOUNT \*\*

9.20 TAXABLE 0.00  
NON-TAXABLE 9.20  
SUBTOTAL 9.20

X Rene Martell  
RECEIVED BY

EXHIBIT

12

TAX AMOUNT 0.00  
TOTAL AMOUNT 9.20

SUNRISE HOME CENTER  
307 F STREET, HWY 2 WEST  
PO BOX 1117  
POPLAR, MT 59255-1117  
PHONE: (406) 768-3762

PAGE NO 1

STOP BY AND CHECK OUT THE GREAT SAVING  
IN THE ANNEX STORE.

STOMER NO.	JOB NO.	PURCHASE ORDER NO.	REFERENCE	TERMS	CLERK	DATE	TIME
6023				NET 10TH	JASON	8/14/99	2:05

RENE A MARTELL  
JOSI N YOUPEE  
PO BOX 44  
POPLAR MT 59255-0044

S  
H  
I  
P  
T  
O

DUE DATE: 9/10/99

DOCA 97498

\*\*\*\*\*

# INVOICE #

\*\*\*\*\*

TAX : 001 MONTANA NO TAX

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	SUGG	UNITS	PRICE/PER	EXTENSION
1		EA	534297	70042-51168 72PC BRUSH ASST		1	1.89 /EA	1.89 N
1		EA	325878	WC401/104 1/2IDX1/2IP MALE ADAPT		1	.65 /EA	.65 N
2		EA	325878	WC401/104 1/2IDX1/2IP MALE ADAPT		2	.65 /EA	1.30 N
1		EA	181354	KILZ ULTRA GALLON		1	20.99 /EA	20.99 N

\*\* AMOUNT CHARGED TO STORE ACCOUNT \*\*

24.83 TAXABLE 0.00

NON-TAXABLE 24.83

SUBTOTAL 24.83

X

*Rene Martell*

RECEIVED BY

TAX AMOUNT 0.00

TOTAL AMOUNT 24.83

SUNRISE HOME CENTER  
307 F STREET, HWY 2 WEST  
PO BOX 1117  
POPLAR, MT 59255-1117  
PHONE: (406) 768-3762

PAGE NO 1

STOP BY AND CHECK OUT THE GREAT SAVING  
IN THE ANNEX STORE.

CUSTOMER NO.	JOB NO.	PURCHASE ORDER NO.	REFERENCE	TERMS	CLERK	DATE	TIME
6023				NET 10TH	LANETTE	8/16/99	2:57

RENE A MARTELL  
JOSI H YOUPEE  
PO BOX 44  
POPLAR MT 59255-0044

S  
H  
I  
P  
T  
O

DUE DATE: 9/10/99

DOCN 97597  
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\* INVOICE \*  
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TAX : 001 MONTANA NO TAX

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	3000	UNITS	PRICE/PER	EXTENSION
2		EA	F20408	2 X 4 X 8		10.66	750.00 /MF	8.00 N
1		EA	379600	BP01133 PRFCT PNTR 3PC POLY BSH		1	5.99 /EA	5.99 N
1		EA	01	PAINT		1	5.99 /EA	5.99 N

\*\* AMOUNT CHARGED TO STORE ACCOUNT \*\*

19.98 TAXABLE 0.00  
NON-TAXABLE 19.98  
SUBTOTAL 19.98

X *Rene Martell*  
RECEIVED BY

TAX AMOUNT 0.00  
TOTAL AMOUNT 19.98

SUNRISE HOME CENTER  
307 F STREET, HWY 2 WEST  
PO BOX 1117  
POPLAR, MT 59255-1117  
PHONE: (406) 768-3762

PAGE NO. 1

STOP BY AND CHECK OUT THE GREAT SAVING  
IN THE ANNEX STORE.

CUSTOMER NO.	JOB NO.	PURCHASE ORDER NO.	REFERENCE	TERMS	CLERK	DATE	TIME
6023				NET 10TH	LANETTE	8/18/99	9:47

RENE A MARTELL  
JOSI H YOUPEE  
PO BOX 44  
POPLAR MT 59255-0044

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DUE DATE: 9/10/99

DOCB 97794

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TAX : 001 MONTANA NO TAX

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	SUB	UNITS	PRICE/PER	EXTENSION
1		EA	933143	1-1/2 TRIM BRUSH	3.69	1	1.97 /EA	1.97 SH
1		EA	564369	22006 S/G KIT&BATH ENAMEL WHT G	26.99	1	20.88 /EA	20.88 SH
1		EA	564419	22000 S/G KIT&BATH ENAMEL WHT O		1	9.69 /EA	9.69 N
1		EA	368118	WORKS BOWL CLEANER	3.98	1	2.47 /EA	2.47 SH

\*\* AMOUNT CHARGED TO STORE ACCOUNT \*\*

35.01 TAXABLE 0.00

NON-TAXABLE 35.01

SUBTOTAL 35.01

TAX AMOUNT 0.00

TOTAL AMOUNT 35.01

X Rene Martell  
RECEIVED BY

SUNRISE HOME CENTER  
307 F STREET, HWY 2 WEST  
PO BOX 1117  
POPLAR, MT 59255-1117  
PHONE: (406) 768-3762

PAGE NO 1

STOP BY AND CHECK OUT THE GREAT SAVING  
IN THE ANNEX STORE.

CUSTOMER NO.	JOB NO.	PURCHASE ORDER NO.	REFERENCE	TERMS	CLERK	DATE	TIME
6023				NET 10TH	BOB	8/21/99	8:29

RENE A MARTELL  
JOSI M YOUPEE  
PO BOX 44  
POPLAR MT 59255-0044

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DUE DATE: 9/10/99

DOCH 98075

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TAX : 001 MONTANA NO TAX

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	SUGG	UNITS	PRICE/PER	EXTENSION
1		EA	815258	10102 JOINT COMPOUND 12LB		1	5.59 /EA	5.59 N

\*\* AMOUNT CHARGED TO STORE ACCOUNT \*\*

5.59 TAXABLE 0.00  
NON-TAXABLE 5.59  
SUBTOTAL 5.59

X *Rene Martell*  
RECEIVED BY

TAX AMOUNT 0.00  
TOTAL AMOUNT 5.59

SUNRISE HOME CENTER  
307 F STREET, HWY 2 WEST  
PO BOX 1117  
POPLAR, MT 59255-1117  
PHONE: (406) 768-3762

PAGE NO 1

STOP BY AND CHECK OUT THE GREAT SAVING  
IN THE ANNEX STORE.

STOMER NO.	JOB NO.	PURCHASE ORDER NO.	REFERENCE	TERMS	CLERK	DATE	TIME
6023				NET 10TH	BRANDY	8/24/99	4:24

RENE A MARTELL  
JOSE H YUPEE  
PO BOX 44  
POPLAR MT 59255-0044

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DUE DATE: 9/10/99

DOCH 98358

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TAX : 001 MONTANA NO TAX

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	SUGG	UNITS	PRICE/PER	EXTENSION
29		LF	WM126	1/2 X 3/4 FJ PINE BASE SHOE		29	.32 /LF	9.28 N
2		LF	WM205	1 1/8 FJ PINE OUTSIDE CORNER		2	.81 /LF	1.62 N
3		EA	518563	OS13 QUAKER STATE 10430		3	1.99 /EA	5.97 N
1		CT	468884	113 BLADE DISPENSER 40BX/CTN		1	1.19 /CT	1.19 N
1		CD	465344	434 10IN PAINT TRIM GUIDE	1.39	1	1.19 /CD	1.19 N
1		EA	225185	LWF66 LEECH WOOD FILLER 1 3/4OZ		1	2.19 /EA	2.19 N
1		EA	04	BUILDER'S HARDWARE		1	.95 /EA	.95 N

\*\* AMOUNT CHARGED TO STORE ACCOUNT \*\*

22.39 TAXABLE 0.00  
NON-TAXABLE 22.39  
SUBTOTAL 22.39

X *Rene Martell*  
RECEIVED BY

TAX AMOUNT 0.00  
TOTAL AMOUNT 22.39

SUNRISE HOME CENTER  
307 F STREET, HWY 2 WEST  
PO BOX 1117  
POPLAR, MT 59255-1117  
PHONE: (406) 768-3762

PAGE NO - 1

STOP BY AND CHECK OUT THE GREAT SAVING  
IN THE ANNEX STORE.

CUSTOMER NO.	JOB NO.	PURCHASE ORDER NO.	REFERENCE	TERMS	CLERK	DATE	TIME
6023				NET 10TH	BRANDY	8/25/99	2:40

RENE A MARTELL  
JOSI N YOUPEE  
PO BOX 44  
POPLAR MT 59255-0044

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DUE DATE: 9/10/99

DOCH 98464

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TAX : 001 MONTANA NO TAX

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	SUGG	UNITS	PRICE/PER	EXTENSION
2		EA	058347	MA-94172 PAINT ROLLER COVER		2	1.39 /EA	2.78 N
1		EA	438242	2275 CORNER PAINT PAD		1	4.69 /EA	4.69 N

\*\* AMOUNT CHARGED TO STORE ACCOUNT \*\*

7.47 TAXABLE 0.00

NON-TAXABLE 7.47

SUBTOTAL 7.47

TAX AMOUNT 0.00

TOTAL AMOUNT 7.47

X *Rene Martell*  
RECEIVED BY

SUNRISE HOME CENTER  
 307 F STREET, HWY 2 WEST  
 PO BOX 1117  
 POPLAR, MT-59255-1117  
 PHONE: (406) 768-3762

PAGE NO 1

STOP BY AND CHECK OUT THE GREAT SAVING  
 IN THE ANNEX STORE.

STOMER NO.	JOB NO.	PURCHASE ORDER NO.	REFERENCE	TERMS	CLERK	DATE	TIME
6023				NET 10TH	SHANNON	8/14/99	4:40

RENE A MARTELL  
 JOSI H YOUPEE  
 PO BOX 44  
 POPLAR MT-59255-0044

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DUE DATE: 9/10/99

DOCH 97523

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TAX : 001 MONTANA NO TAX

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	3000	UNITS	PRICE/PER	EXTENSION
1		EA	04	SHEET ROCK NAILS		1	1.20 /EA	1.20 N
2		EA	SRXCORNERS	SHEET ROCK CORNER BEAD		2	1.25 /EA	2.50 N

\*\* AMOUNT CHARGED TO STORE ACCOUNT \*\*

3.70 TAXABLE 0.00

NON-TAXABLE 3.70

SUBTOTAL 3.70

TAX AMOUNT 0.00

TOTAL AMOUNT 3.70

X *Rene Martell*  
 RECEIVED BY

SUNRISE HOME CENTER  
307 F STREET, HWY 2 WEST  
PO BOX 1117  
POPLAR, MT 59255-1117  
PHONE: (406) 768-3762

PAGE NO 1

APRIL SHOWERS BRING MAY FLOWERS. WE HAVE  
ALL YOUR LAWN AND GARDEN NEEDS

CUSTOMER NO.	JOB NO.	PURCHASE ORDER NO.	REFERENCE	TERMS	CLERK	DATE	TIME
6023				NET 10TH	SHERRY	6/ 8/00	0:23

RENE A MARTELL  
JOSI M YUPEE  
PO BOX 44  
POPLAR MT 59255-0044

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DUE DATE: 7/10/00

DOCH 120057  
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INVOICE  
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TAX : 001 MONTANA NO TAX

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	UNIT	UNITS	PRICE/PER	EXTENSION
2		EA	868554	B1F09 FAUCET CONN 3/8X1/2 9INLG		2	2.99 /EA	5.98 N
1		EA	862753	011-4150 2HDL LAV FCT LESS POP		1	11.95 /EA	11.95 H
1		EA	243675	2-HDL KITCHEN FAUCET		1	25.99 /EA	25.99 H

\*\* AMOUNT CHARGED TO STORE ACCOUNT \*\*

47.92 TAXABLE 0.00  
NON-TAXABLE 47.92  
SUBTOTAL 47.92

X *Rene Martell*  
RECEIVED BY

TAX AMOUNT 0.00  
TOTAL AMOUNT 47.92

SUNRISE HOME CENTER  
307 F STREET, HWY 2 WEST  
PO BOX 1117  
POPLAR, MT 59255-1117  
PHONE: (406) 768-3762

PAGE NO 1

SUMMER IS STARTING !! WE HAVE ALL OF  
YOUR BAR-B-Q NEEDS. GET COOKING !!!!

CUSTOMER NO.	JOB NO.	PURCHASE ORDER NO.	REFERENCE	TERMS	CLERK	DATE	TIME
6023				NET. 10TH	WENDY	8/ 7/00	:40

RENE A MARTELL  
JOSI N YGUEE  
PO BOX 44  
POPLAR MT 59255-0044

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DUE DATE: 9/10/00

DOCH 125196

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TAX : 001 MONTANA NO TAX

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	SUGG	UNITS	PRICE/PER	EXTENSION
1		EA	968792	507C FLUSH VALVE SAVES WTR UNVSL		1	5.99 /EA	5.99 N
1		EA	800946	068075 TANX BOLT W/HEX NUT WASHE		1	3.19 /EA	3.19 N
1		EA	316190	4225B FLUSH LEVER		1	2.69 /EA	2.69 N
1		CD	636012	CLOSE CPLE GASKET GERB		1	3.99 /CD	3.99 N

\*\* AMOUNT CHARGED TO STORE ACCOUNT \*\*

15.86 TAXABLE 0.00

NON-TAXABLE 15.86

SUBTOTAL 15.86

X *Rene Martell*

RECEIVED BY

TAX AMOUNT 0.00

TOTAL AMOUNT 15.86

SUNRISE HOME CENTER  
307 F STREET, HWY 2 WEST  
PO BOX 1117  
POPLAR, MT 59255-1117  
PHONE: (406) 768-3762

PAGE NO 1

SUMMER IS STARTING !! WE HAVE ALL OF  
YOUR BAR-B-Q NEEDS. GET COOKING !!!

CUSTOMER NO. 6023	JOB NO.	PURCHASE ORDER NO.	REFERENCE	TERMS NET 10TH	CLERK OLENE	DATE 8/1/00	TIME 1:40
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RENE A MARTELL  
JOSE M YOUPEE  
PO BOX 44  
POPLAR MT 59255-0044

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DUE DATE: 9/10/00

DOC# 124776

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\* INVOICE \*

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TAX: 001 MONTANA NO TAX

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	SUGG	UNITS	PRICE/PER	EXTENSION
1		EA	240325	BULLS EYE FLAPPER SUPER		1	3.89 /EA	3.89 N
** AMOUNT CHARGED TO STORE ACCOUNT **						10.88	TAXABLE	0.00
							NON-TAXABLE	10.88
							SUBTOTAL	10.88
							TAX AMOUNT	0.00
							TOTAL AMOUNT	10.88

X Rene Martell

RECEIVED BY

SUNRISE HOME CENTER  
307 F STREET, HWY 2 WEST  
PO BOX 1117  
POPLAR, MT. 59255-1117  
PHONE: (406) 768-3762

PAGE NO 1

SUMMER IS STARTING !! WE HAVE ALL OF  
YOUR BAR-B-Q NEEDS. GET COOKING !!

CUSTOMER NO.	JOB NO.	PURCHASE ORDER NO.	REFERENCE	TERMS	CLERK	DATE	TIME
6023					WENBY	7/ 5/00	10:55

S O L D  T O	RENE A KARTELL	S H I P  T O
	JOSI H YOUPEE	
	PO BOX 44	
	POPLAR MT 59255-0044	

DUE DATE: 9/10/00

DOCH 122315

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\* INVOICE \*

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TAX 001 MONTANA NO TAX

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	SUGG	UNITS	PRICE/PER	EXTENSION
1		EA	240325	PULLS EYE FLAPPER SUPER		1	3.89 /EA	3.89 R
1		EA	375923	400A BALLCOCK ANTI-SIPHON S/S		1	6.99 /EA	6.99 R

8/29/00  
#10380  
\$30

\*\* AMOUNT CHARGED TO STORE ACCOUNT \*\*

10.88	TAXABLE	0.00
	NON-TAXABLE	10.88
	SUBTOTAL	10.88

X Rene Martell  
RECEIVED BY

	TAX AMOUNT	0.00
	TOTAL AMOUNT	10.88

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION VIII

IN THE MATTER OF

Murphy Exploration &  
Production Company,  
Murphy Oil USA, Inc.,  
Murphy Oil Corporation,  
Pioneer Natural Resources  
Company,  
W.R. Grace & Company-Conn.,  
AMARCO Resources Corporation,  
EPEC-Altamount Corporation,  
Marathon Oil Company

Respondents

East Poplar Oil Field  
Fort Peck Indian Reservation  
Montana

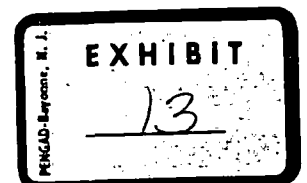
Proceedings under  
Section 1431(a)  
of the Safe Drinking Water  
Act, 42 U.S.C. §300g-i(a)

Docket No.

EMERGENCY  
ADMINISTRATIVE ORDER

STATUTORY AUTHORITY

1. The following Findings are made and Order issued under the authority vested in the Administrator of the U.S. Environmental Protection Agency (EPA) by Section 1431(a) of the Safe Drinking Water Act (the Act), 42 U.S.C. §300i(a). The authority to take this action has been properly delegated to the undersigned EPA program supervisors.



ENFORCEMENT RESPONSIBILITY

2. EPA has primary enforcement responsibility for the Act on the Lands within the exterior boundary of the Fort Peck Indian Reservation in Roosevelt County in the State of Montana.

DESCRIPTION OF RESPONDENTS

3. Murphy Exploration & Production Company is a Delaware corporation doing business in the State of Montana and therefore is a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12).
4. Murphy Oil USA, Inc. is a Delaware corporation and did business in the state of Montana until status was withdrawn in 1994, and therefore is a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12).
5. Murphy Oil Corporation is a Delaware corporation and did business in the state of Montana and therefore is a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12).  
Murphy Oil Corporation was a publicly held corporation until 1991, at which time the parent company Murphy Oil Corporation acquired all of the company's stock. The acquisition was completed by forming a new subsidiary of the parent Murphy Oil Corporation known as Murphy

Exploration & Production Company, which currently operates in the state of Montana.

6. Pioneer Natural Resources Company is a Delaware corporation and therefore a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). Also known as Pioneer Natural Resources USA, Inc. Pioneer Natural Resources Company acquired the assets of Mesa Petroleum Co. Mesa Petroleum Co. did business in the state of Montana.
7. W.R. Grace & Co. is a Connecticut corporation and therefore a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). Polumbus Petroleum Corporation in its merger with W.R. Grace & Co. became Grace Petroleum Corporation. Polumbus Petroleum Corporation merged with W.R. Grace & Co. a Connecticut corporation in 1976. Polumbus did business in the state of Montana.
8. AMARCO Resources Corporation is a Texas corporation and did business in the state of Montana and therefore is a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). AMARCO Resources Corp. is also using the trade name Westdale, Inc. in Texas.
9. EPEC-Altamont Corporation is a Delaware corporation and did business in the state of Montana and therefore is a

"person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). Tenneco Oil Company (Tenneco-Altamont Corporation) merged with EPEC-Altamont Corporation and did business in the State of Montana.

10. Marathon Oil Company is an Ohio corporation and therefore a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). TXO Production Corp. a Delaware corporation merged with Marathon Oil Company. TXO Production Corp was a trade name for Texas Oil & Gas Corp. a Delaware corporation.
11. Respondents own and/or operate or did own and/or operate oil and gas production facilities, including but not limited to oil or gas production wells, produced brine disposal wells, secondary recovery injection wells, drilled and abandoned dry holes, production and waste pits, storage tanks, oil/water separators, and distribution pipelines and pumping facilities, in portions of the East Poplar Oil Field located within Township 28 North, Range 51 East on the Fort Peck Indian Reservation in Roosevelt County in the State of Montana.

### FINDINGS

12. The Quaternary Deposits are the most recent geologic deposits of the Cenozoic Era, covering approximately the past 1.65 millions years. These Quaternary Deposits in the East Poplar Oil Field area consist mainly of the Winota Gravel, Sprole Silt, glacial till, fan alluvium and colluvium, and alluvium. The Pleistocene Winota Gravel, Sprole Silt, glacial till, and dune sand are referred to as "glacial deposits". Lithologic logs from the monitoring wells drilled in the area show depths ranging from of 55 to 100 feet. The Pleistocene and Holocene fan alluvium and colluvium and Holocene alluvium are referred to as "alluvium" and overlies the glacial deposits in many areas with depths ranging from 20 to 50 feet. The alluvium underlies flood plain deposits. Water in Quaternary deposits east of the Poplar River generally moves westward toward the river where it merges with southward-flowing ground water in the Poplar River valley. Downward movement of water from the Quaternary deposits is not a significant problem, the underlying Bearpaw Shale is relatively impermeable and forms a confining layer.
13. These Quaternary glacial deposits and alluvium are the sole developed source of ground water for private resident wells in and around the East Poplar Oil Field

and the Poplar, Montana and tribally-owned Poplar Head Start Center public water supply systems. Depth to the water table below land surface in this area generally ranges from about 5 to 44 feet in the alluvium and 7 to 139 feet in the glacial deposits.

14. The Quaternary Deposits form an unconfined aquifer which contains a sufficient quantity of ground water to supply a public water system. A public water system (PWS), as defined by 40 C.F.R. § 141.2, means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year.
15. The Quaternary Deposits are an underground source of drinking water (USDW). A USDW, as defined under 40 C.F.R. § 144.3, means an aquifer or its portion which supplies any PWS or which contains a sufficient quantity of ground water to supply a public water system; and currently supplies drinking water for human consumption or contains fewer than 10,000 mg/L total dissolved solids. Past sampling from private ground water wells in the area showed total dissolved solids content ranging from 427-2,680 mg/L (as discussed in the U.S. Geological Survey study below).

16. The United States Geological Survey (USGS) has conducted an extensive ground water investigation of saline-water contamination in and around the East Poplar Oil Field. The USGS reviewed ground water and surface water quality data from existing private water wells, new monitoring wells, oil wells, brine-injection wells, and the Poplar River in the East Poplar Oil Field area. Additionally, the USGS completed an electromagnetic geophysical survey, by measuring the electromagnetic apparent conductivity corrected for local anomalies (wells, pipelines, etc.), over a 21.6 square mile area to assist in the delineating the extent of the saline-water contamination plumes. Uncontaminated ground-water in the area had total dissolved solids content ranging from 427-2,680 mg/L. The areas delineated by the ground water study as part of the brine contaminated plumes contained total dissolved solid levels as high as 91,100 mg/L. In July 1999, EPA took ground water samples from the wells at private homes within the area shown by the USGS study to have brine contamination. EPA found TDS levels at these homes to range from 1850 to 4890 mg/L.
17. EPA collected water samples at several of the home sites in the contamination area to determine if any contamination by hydrocarbons or volatile organic compounds (VOCs) was also a concern. Brine

contamination plumes associated with oil and gas production operations will have remnants of hydrocarbons from the production formation. Samples taken by both EPA at the existing home sites and USGS at several monitoring wells showed benzene contamination. A sample taken at one home site had benzene contamination between 58-78 ug/L or 0.058-0.078 mg/L, while other samples taken at USGS monitoring wells in the field were between 1.58-4.86 ug/L or 0.00158-0.00486 mg/L.

18. Under the Primary Drinking Water Standards, the maximum contaminant level (MCL) for benzene, as set forth in 40 C.F.R. § 141.61, is 0.005 mg/L. Secondary Drinking Water Standards, as set out in 40 C.F.R. § 143.3, for dissolved-solids is 500 mg/L.
19. The presence and entry of benzene at levels as high as .078 mg/L in the Quaternary Deposits USDW may present an imminent and substantial endangerment to the health of persons.
20. Benzene is a known human carcinogen. A causal relationship between benzene exposure and leukemia has been clearly established. Benzene exposure has also been associated with cancer of the lymph system (lymphoma), lung cancer, and bladder (urothelial) cancer. Benzene may increase the risk of cancer in

humans who are exposed at lower levels over a long period of time.

21. The presence and entry of dissolved-solids at levels between 10,000 and 91,100 mg/L where found in the Quaternary Deposits USDW may present an imminent and substantial endangerment to the health of persons.
22. Total dissolved solids in excess of 1,000-2,000 mg/L is unpalatable and will not be voluntarily consumed by individuals. If an individual has no other source of water and is forced to consume water with TDS levels over 10,000 mg/L, the adverse health effects include severe osmotic diarrhea and severe dehydration. Continued consumption after the onset of the above conditions may result in death.
23. Contaminants, including dissolved-solids and benzene are present in, entering, and are likely to continue to enter the Quaternary Deposits.
24. Based upon the data obtained regarding the geology in the affected area, the general direction of groundwater migration in the USDW and water quality assessments from monitoring and private wells, and review of historical land use in the area, EPA has determined that Respondents' oil production practices and/or equipment have caused or contributed and/or are continuing to cause or contribute to the endangerment of a USDW.

25. EPA has consulted with the Assiniboine and Sioux Tribes of the Fort Peck Reservation prior to issuing this Order. The Tribes notified EPA that they have not taken an action to protect the health of persons from the contaminants that are likely to be present in the Quaternary Deposits USDW.
26. To date, no governmental action has been taken to protect the health of persons from the contaminants that are likely to be present in the Quaternary Deposits USDW due to Respondents' operations of their oil production operations. The State of Montana, which does not have jurisdiction in this case, has been contacted by EPA. The State notified EPA that it has not taken an action and does not intend to take an action in this case.
3. EPA, therefore, finds that the actions ordered below are authorized under Section 1431 of the Act, 42 U.S.C. §300(i), and are necessary in order to protect the health of persons.

EMERGENCY ADMINISTRATIVE ORDER

1. Based on the foregoing findings of fact, taking into account the imminent and substantial endangerment to the health of persons and other such matters as justice may require, including the administrative record, and under authority of §1431(i) of the Act, 42 U.S.C.

§300(i), compliance with the following provisions is hereby ordered:

A. PROVIDE TEMPORARY SAFE DRINKING WATER SOURCE TO IDENTIFIED RESIDENCES

The Respondents shall immediately provide an alternative source of water that meets the EPA drinking water standards (40 C.F.R. Part 142) for drinking and cooking to the residences of the contaminated area. The water shall be provided in the quantity of one gallon per person per day in each residence. This water is to be provided on a regular basis in an easily accessible manner to the residence. The residences known to have contaminated water or which have drinking water which is threatened with contamination at this time are listed below and on the attached map

(Attachment #1) :

Current Resident	City	State	Residence Address	Sec	Twn	Rge
Kohl, Danny	Poplar	MT				
Lien, Birdell	Poplar	MT				
Zimmerman, Bill	Poplar	MT				
Abbott, Joe	Poplar	MT				
Kirn, Audrey	Poplar	MT				
Kirn, Michael	Poplar	MT				
Gray Hawk, Rachel	Poplar	MT				

East Poplar Oil Field  
Page 12 of 20

Trottier, Tim & Donna	Poplar	MT
Lockman, William	Poplar	MT
Four Bears, Charles	Poplar	MT
Martell, Rene & Josi	Poplar	MT
Ricker Sr., George & Helen	Poplar	MT
Bleazard, Ross & Laura	Poplar	MT
Whitmer, Warren & Donna	Poplar	Mt
Loegering, Mavis	Poplar	MT
Kirn Sr., Jesse	Poplar	MT
Grandchamp, Denise	Poplar	MT
Grainger, Trivian	Poplar	MT

After further study there may be a need to supply other types of domestic water. Respondents, upon notification by EPA, shall deliver this alternative source of water until such time as the local water source has been deemed by EPA as safe for consumptive

use or a permanent alternative source of water is provided. As the contamination plume moves through the aquifer, other residence(s) or municipalities may be added to the list above, and this Order will be amended.

B. SUBMIT CLEANUP AND PERMANENT ALTERNATIVE WATER SUPPLY PROPOSALS

Respondents shall submit to EPA within 120 days of the receipt of this order a proposal for cleaning up the contamination plume(s) and a proposed plan for a permanent alternative water supply. The proposed plan for clean up of the contamination plume(s) shall include, but not be limited to, the information listed below:

1. Proposed method(s) to capture existing plume, to include:
  - a. Containment
  - b. Diversion of ground water
  - c. Monitoring of Plume
2. Proposed method(s) to treat or dispose of captured plume, to include:
  - a. Extraction of contaminants
  - b. Disposal of contaminants
  - c. Clean-up levels
3. Determination of lateral and vertical extent of ground water contamination, to include:
  - a. Salinity determination
  - b. Benzene determination
  - c. Total organic carbon determination
  - c. Cl:Br ratio
  - d. Ground water flow direction
  - e. Ground water flow rate
4. Proposed method(s) to prevent further contamination, to include:
  - a. Containment at surface
  - b. Corrective action on leaking wells
  - c. Corrective action on leaking pits and ponds
  - d. Corrective actions on leaking tanks

- e. Corrective action on leaking transportation lines

The proposed plan for a permanent alternative water source shall be developed and approved by an independent engineer and shall take into consideration at least the factors listed below:

1. Water source
2. Source water yield
3. Source water quality (meets all EPA Drinking Water standards and if it meets criteria as a public water supply, must follow PWS regulatory requirements)
4. Long-term management of alternative water source

C. PREPARE AND SUBMIT WELL INFORMATION

The Respondents shall provide a historical record for each well listed and any other wells drilled, completed, reworked, converted, operated or plugged by Respondents within the sections of Township 28N and Range 51E, Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24. Attached is a non-inclusive list of wells by Section, Township, and Range, and by company, for which the Respondents must provide the well information listed below (Attachment #2). The drilling, construction, well rework, conversion, plugging and other pertinent records submitted should include but not be limited to the information listed below. In each case service company records associated with each well activity shall be included. Respondents shall include information on

each instance of well integrity failures, that involved casing leaks, flow behind the casing and/or any fluids surfacing at or near the wellheads. Respondents shall include information listed below:

1. Well Name and API Identification Number
2. Well location
3. Current well status for each well.
  - a. Active, Shut-in, Temporarily Abandoned, Plugged
4. Well Construction Information
  - a. Date Well Drilled
  - b. Date Well Completed
  - c. Total Depth
  - d. Plug Back Depth
  - e. Drilling Record
  - f. Completion Record (include diagram)
  - g. Cementing Record (including estimated cement tops with assumptions for calculations and cement bond logs)
5. Well Rework Information
  - a. Date of Well Rework
  - b. Reason for Rework (If due to casing leak, location of leak if known)
  - c. Records of Well Logs and Tests Performed
  - d. Record of Rework
  - e. Date Well Recommended Injection or Production
6. Temporarily Abandoned (TA) or Shut-in Wells Information
  - a. Date(s) Well Shut-in or TA
  - b. Reason for TA or Shut-in of Well
  - c. Was Well Shut-in or TA'd With the Equipment in the Well?
  - d. If Not, What Equipment Was Removed and When, Provide a Record of Work if Possible
  - e. Is the Well Capable of Resuming Injection or Production Without a Rework?
7. Well Conversion Information
  - a. Date(s) Well Converted from Production to Injection:
  - b. Date(s) Well Converted from Injection to Production
  - c. Record of Conversion Activity

8. Plugging and Abandonment Information
  - a. Plug and Abandonment Plan
  - b. Plugging Record
  - c. Were Any Problems Experienced During the Plugging Process, Involving Such Things as Pulling of Equipment, Setting Plugs, Water Flow to Surface?

D. PREPARE AND SUBMIT TANK AND PIPELINE INFORMATION

Respondents shall provide information on all current and past tanks, associated tank battery equipment, oil/water separators, and pipelines used in the East Poplar Oil Field for the production of oil and gas in the township, range, and sections listed Paragraph C above, including but not limited to: Tank Batteries 8-D, 80-D, South Central, A, C, D, F, G, H, K, and R.

Respondents shall provide the information listed below:

1. Location of tank
2. Tank size and construction
3. Duration of tank use
4. Information on leaking tank bottoms or any other type of tank integrity failure(s)
5. Information on spill incidents at or near the tanks and tank batteries, including those from unloading transport trucks into the tanks.
6. Location of all pipelines (identify as surface or subsurface)
7. Information on any leaks or spills from pipelines leading to and from the tanks and wells
8. Information on pipeline failures on the surface and subsurface.

E. PROVIDE INFORMATION ON PIT(S) USED IN THE PRODUCTION OF OIL OR GAS

Respondents shall provide information on all current and abandoned pits used for well construction, oil and gas production, well workovers, product and waste storage, evaporation and disposal of fluid products and

wastes in the sections listed for in the East Poplar Oil Field for the production of oil and gas in the township, range, and sections listed in Paragraph C above.

Respondents shall include information on the construction for each pit, date pit constructed, duration of pit use, for what the pit was used, types of wastes placed in the pit, and, if abandoned, record of abandonment.

F. PROVIDE GEOLOGIC AND HYDROLOGIC FIELD INFORMATION

Respondents shall provide a formation depth cross section for the portion of the field drilled, constructed, operated, and/or plugged well(s) by each Respondent. Respondents shall provide information on all formations found to contain water above the injection or production formation being used by their wells. Respondents shall provide information on formation pressures for production and/or injection formations, over a time line from well construction to well plugging.

2. Unless otherwise specified, all reports and notifications herein required shall be submitted to:

Carol Bowden  
U.S. Environmental Protection Agency  
Office of Enforcement, Compliance  
and Environmental Justice  
Technical Enforcement Program (8ENF-T)  
999 18th Street, Suite 500  
Denver, Colorado 80202-2466  
Telephone (303) 312-6485

3. Not more than 48 hours after receipt of this Order, Respondents shall contact Ms. Carol Bowden at the above address and telephone number to advise her of their intentions to comply with this Order. If that 48 hour time period occurs on a weekend or holiday, Respondents shall contact Ms. Bowden by 10:00 a.m. on the first EPA work day (Monday through Friday) after said holiday or weekend.

GENERAL PROVISIONS

1. The provisions of this order shall apply to and be binding upon Respondents, their officers, directors, agents, successors and assigns. Notice of this Order shall be given to any successors in interest prior to transfer of any of the oil and gas facilities or their operation. Action or inaction of any persons, firms, contractors, employees, agents, or corporations acting under, through or for Respondents, shall not excuse any failure of Respondents to fully perform their obligations under this Order.
2. This Order does not constitute a waiver, suspension, or modification of the requirements of any federal

statute, regulation, or condition of any permit issued thereunder, including the requirements of the Safe Drinking Water Act, which remain in full force and effect. Issuance of this Order is not an election by EPA to forgo any civil or any criminal action otherwise authorized under the Act.

3. Violation of any term of this Order may subject Respondents to an administrative civil penalty of up to \$15,000 for each day in which such violation occurs or failure to comply continues pursuant to §1431(b) of the Act, 42 U.S.C. §300i(b). In addition, actions or omissions which violate any requirements of the SDWA or its implementing regulations may subject Respondents to a civil penalty of not more than \$27,500 per day per violation pursuant to §1423 of the Act, 42 U.S.C. §300h-2.
4. This Emergency Administrative Order is a final agency action by EPA.
5. This Emergency Administrative Order is binding on all Respondents, and each Respondent is jointly and severally liable hereunder.

6. The effective date of this Order shall be the date of issuance.

Issued this \_\_\_\_ day of \_\_\_\_\_, 1999.

---

Connally E. Mears, Director  
Technical Enforcement Program  
Office of Enforcement, Compliance,  
and Environmental Justice  
United States Environmental Protection  
Agency, Region 8

---

Michael T. Risner, Director  
David J. Janik, Senior Attorney  
Legal Enforcement Program  
Office of Enforcement, Compliance,  
and Environmental Justice  
United States Environmental Protection  
Agency, Region 8

Hull, Kenneth

From: Sery, John  
Sent: Wednesday, October 27, 1999 11:13 AM  
To: Hull, Kenneth; Allen, George; Oksness, Richard C.; Hayes, Skip  
Subject: FW: FYI - Ft. Peck Groundwater Contamination

For your information. Has anyone else heard of this yet??

John Sery

-----Original Message-----

From: Wallace, David [SMTP:dxw1@cdc.gov]  
Sent: Wednesday, October 27, 1999 11:01 AM  
To: 'Tom Crow'; 'John Sery'  
Subject: FW: FYI - Ft. Peck Groundwater Contamination

Hi Tom and John,

fyi. my wife works for the USGS and passed on this information--

David

-----Original Message-----

From: Elizabeth A Frick, Hydrologist, Atlanta, GA  
[mailto:eafrick@usgs.gov]  
Sent: Wednesday, October 27, 1999 12:53 PM  
To: dxw1@cdc.gov  
Subject: FYI - someone in IHS/CDC may be interested in these 2 unrelated topics

# MEMORANDUM

October 27,

1999

From: Barbara Wainman, Chief, External Affairs, U.S. Geological Survey

Subject: USGS Weekly Highlights, October 18 - 22, 1999

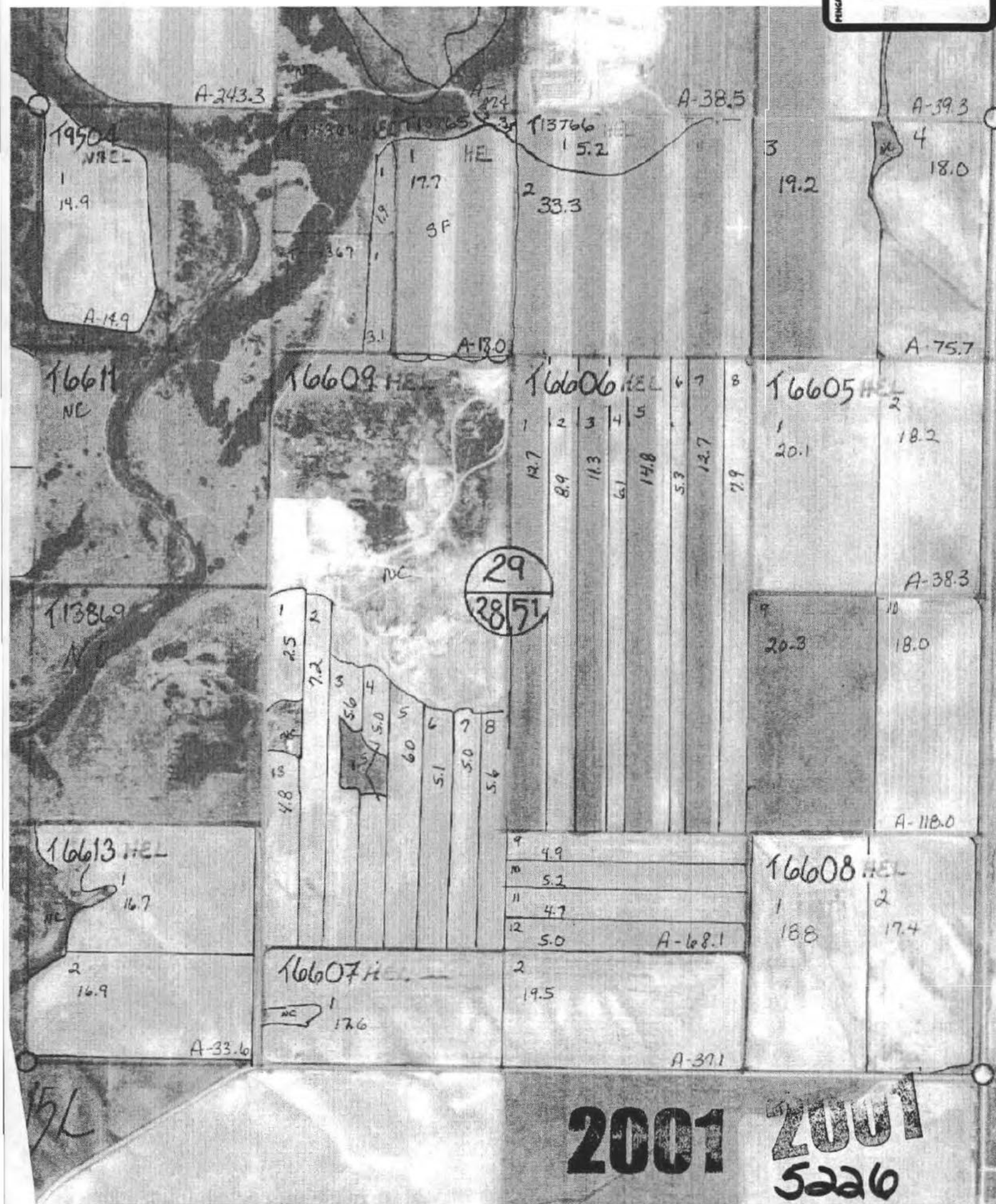
USGS Contributes Data to Safer Water for Tribe: The U.S. Environmental Protection Agency has issued an Emergency Administrative Order under the Safe Drinking Water Act to address ground-water contamination in and near the East Poplar oil field in the Fort Peck Indian Reservation in northeastern Montana. The Order will result in provision of an alternative source of drinking water for many rural residents of the area and calls for remediation. USGS investigations conducted in cooperation with the Fort Peck Tribes (USGS Water Resources Investigations Report 97-4000 and subsequent data) concerning saline contamination of ground water in Quaternary deposits (shallow aquifers) in the area provided much of the



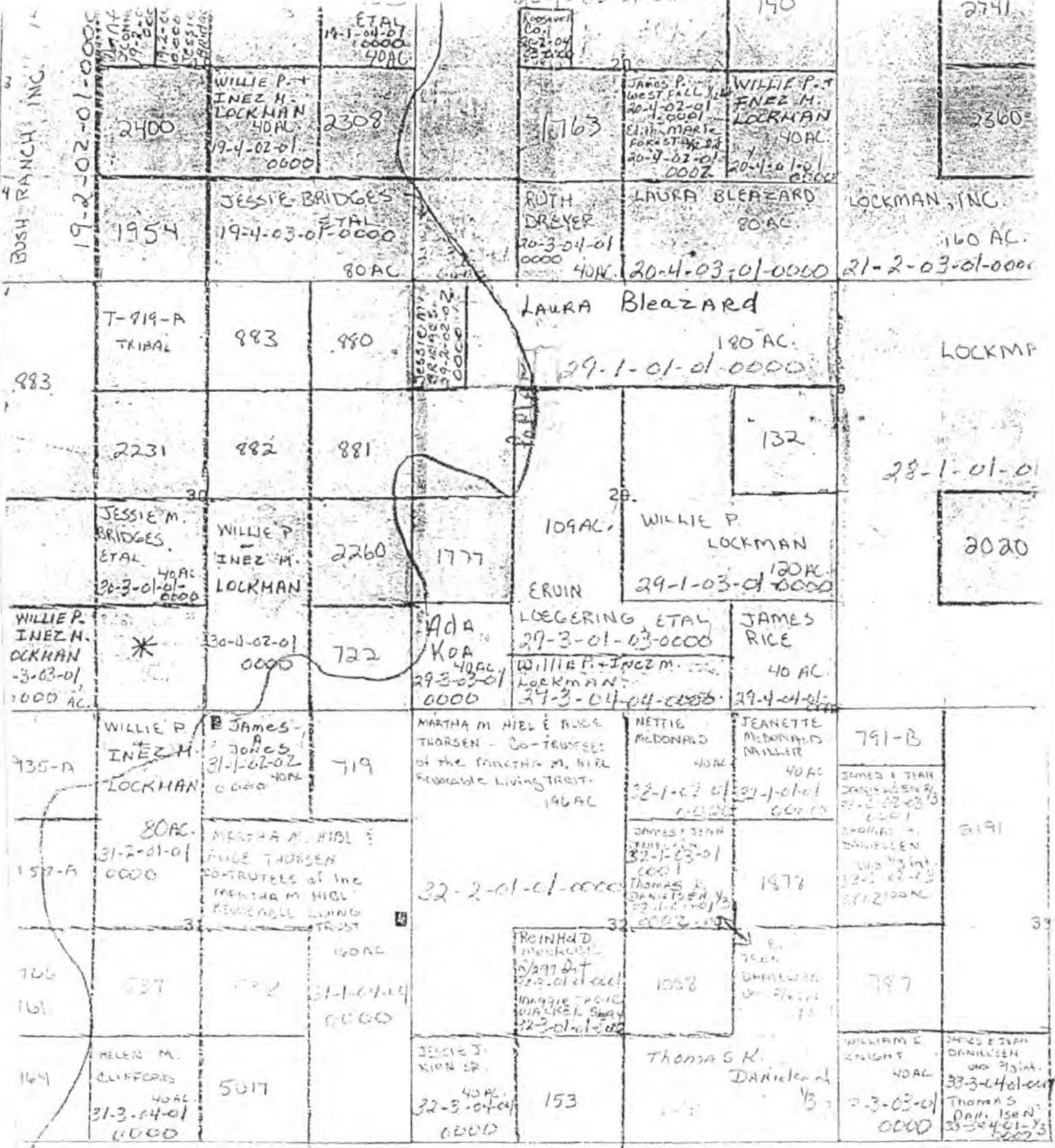
basis for the Order. (Joanna Thamke, Helena, MT, 406-457-5923)

...

· Tracking Infectious Disease: On October 27, USGS scientist Steven Guptill will be interviewed by ABC World News Tonight in conjunction with a three part series addressing the relationship between environments and human health. Guptill will be discussing the role of mapping in tracking infectious diseases. (Karen Wood, Reston, VA, 703-648-4447).



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1 YER 24-01 40 AC	LAURA BLEAZARD 80 AC. 20-4-03-01-0000	LOCKMAN, INC 160 AC. 21-2-03-01-0000			
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		WILLIAM E KNIGHT 40 AC. 23-03-01- 0000	JAMES & STAN DANIELSEN UND 1/3 int. 32-3-04-01-0000 THOMAS DANIELSEN 32-4-01-01- 0000		



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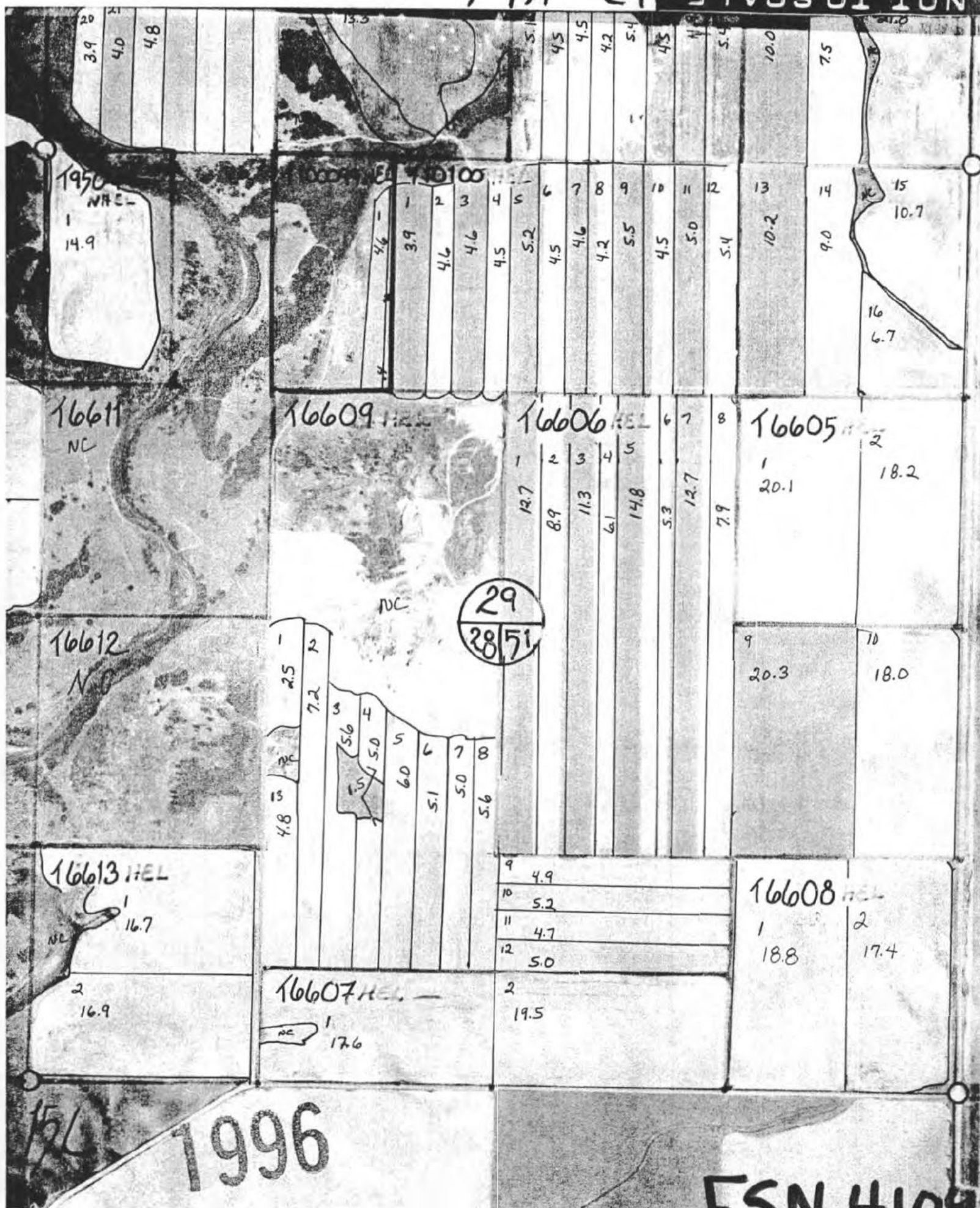
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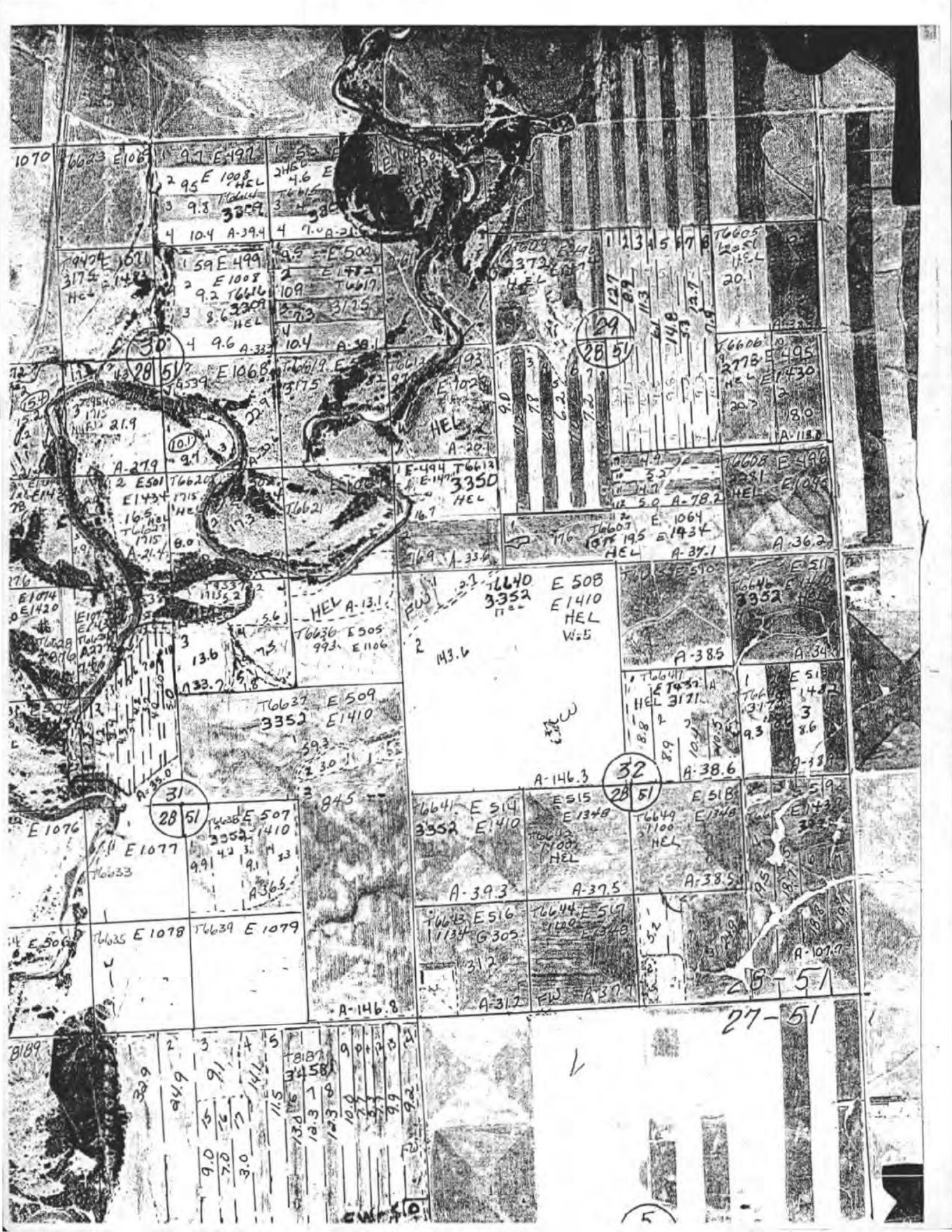
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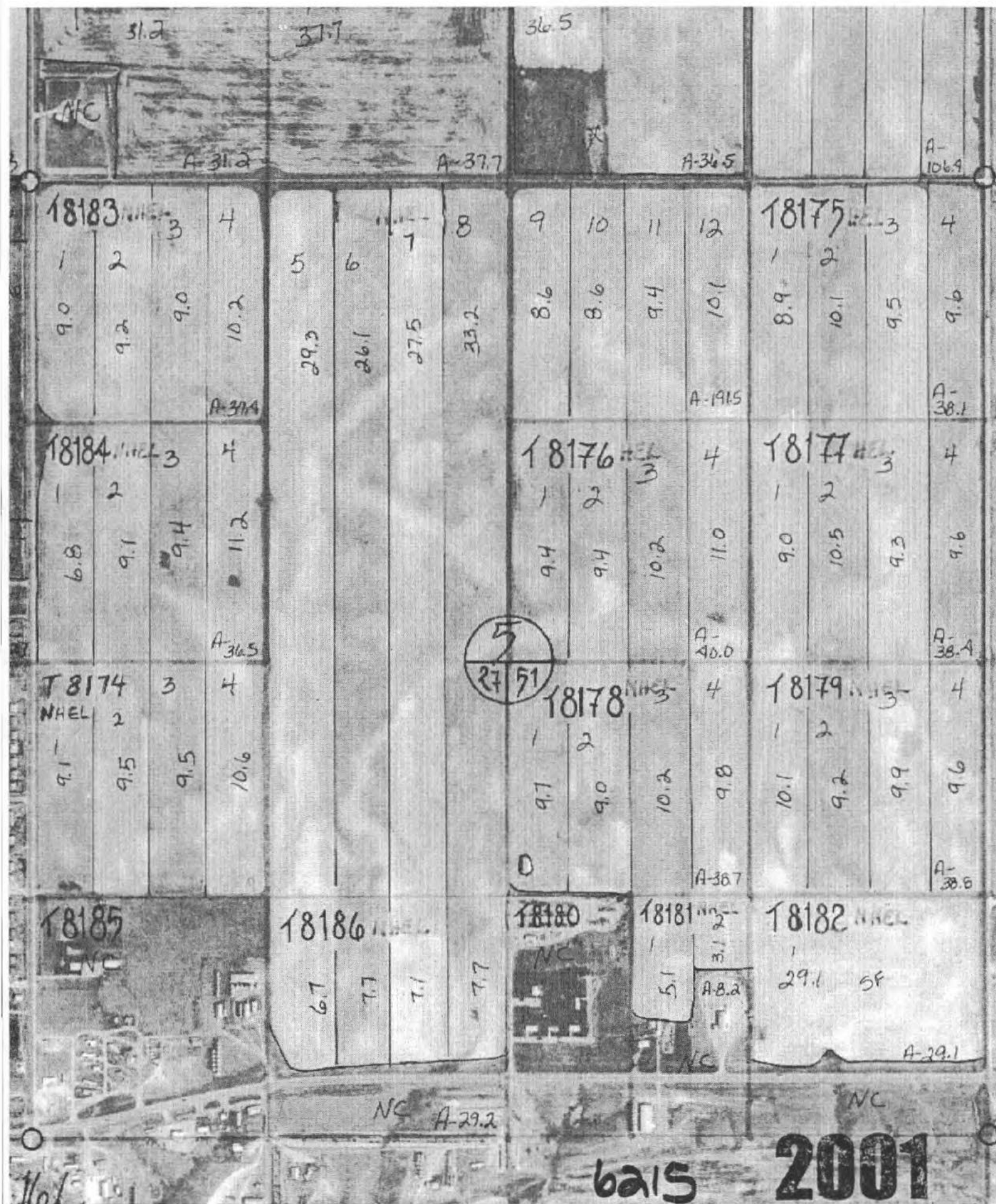
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1 JOHN WALKER ROSS  
Brown Law Firm, P.C.  
2 315 North 24th Street  
P.O. Drawer 849  
3 Billings, MT 59103-0849  
(406) 248-2611

4 *Attorneys for Defendants MESA*  
5 *Petroleum Co., Pioneer Natural*  
6 *Resources Company and Pioneer*  
*Natural Resources USA, Inc.*

8 IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF MONTANA  
9 BILLINGS DIVISION

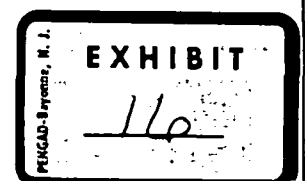
10 CARY G. YOUPEE, et al.,  
11 Plaintiffs,  
12  
13 v.  
14 MURPHY OIL USA, INC., et al.  
15 Defendants.

Cause No. CV 98-108-BLG-JDS  
Judge Jack D. Shanstrom

NOTICE OF TAKING DEPOSITION  
OF LAURA BLEAZARD AND  
REQUEST FOR PRODUCTION OF  
DOCUMENTS

16 MESA PETROLEUM and  
17 PIONEER NATURAL RESOURCES,  
USA, INC.,  
18 Defendants/Third  
19 Party Plaintiffs, and  
Cross-Plaintiffs,  
20 v.  
21 AMARCO RESOURCES CORP.  
22 BESTWAY INC.; WESTDALE  
PETROLEUM INC.; and THE  
PRUDENTIAL GROUP,  
23  
24 Third Party  
Defendants,

25 v.  
26 JOHN DOES 4-50,  
27 Cross-Defendants.  
28



1 TO: Laura Bleazard and her attorneys of record, Richard J. Dolan and Brian  
2 Gallik, Goetz, Gallik, Baldwin & Dolan, P.C., P.O. Box 428, Bozeman, MT 59771-  
3 0428:

4 PLEASE TAKE NOTICE that, pursuant to Rule 26, M.R.Civ.P., the undersigned will  
5 take the deposition of Laura Bleazard, on Wednesday, the 13<sup>th</sup> day of June, 2001, beginning  
6 at 5:00 p.m., or as otherwise arranged by the parties, at the Sherman Motor Inn, located at  
7 200 East Main, Wolf Point, Montana, before a Notary Public of the State of Montana, or such  
8 other person qualified by law to administer oaths in the state of Montana.

9 The Deponent is requested to produce at such deposition all of the following  
10 documents and/or materials:

- 11 1. all information which may be relevant to claims and requests for damages  
12 made by plaintiffs in this action.

13 DATED this 25 day of May, 2001.

14 BROWN LAW FIRM, P.C.

15  
16  
17 By   
18 JOHN WALKER ROSS  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28



# FARM SUMMARY PAGE FOR CERTIFICATION WORKSHEETS

FARM NUMBER: \_\_\_\_\_ OPERATOR: \_\_\_\_\_

PLEASE ENTER THE FOLLOWING FARM CROP ACREAGE TOTALS:

TOTAL ACREAGES	*	OTHER CROPS
WHEAT _____	:-	_____
BARLEY _____	:-	_____
OATS _____	:-	_____
CORN _____	:-	_____
SORGHUM _____	:-	_____
CRP _____	:-	_____
SF _____	:-	_____
OFAV-FRUITS & _____	:-	_____
VEGETABLES _____	:-	_____
_____	:-	_____
_____	:-	_____

ANNUALLY SEEDED CROPS - NATIVE GRASSES  
(INSURABLE) (NON-INSURABLE)

	TOTALS	INSURED (Y OR N)
ALFALFA (60%-OR MORE)	_____	_____
MIXED HAY (26%-59%)	_____	_____
MIXED HAY (Below 25%)	_____	_____
OTHER GRASSES FOR HAY:		
NATIVE	_____	_____
BROME	_____	_____
SUDAN	_____	_____
WHEAT GRASS CRESTED	_____	_____
WHEAT GRASS INTER.	_____	_____
WHEAT GRASS TALL	_____	_____
WHEAT GRASS WESTERN (Blue Joint)	_____	_____

IF NOT CERTIFYING YOUR HAYLAND AND PASTURE, PLEASE COMPLETE BELOW:

-----  
 |  
 \* I DO NOT WISH TO PARTICIPATE IN THE NON-INSURABLE CROP PROGRAM \*  
 |  
 \* X \_\_\_\_\_ \*  
signature and date

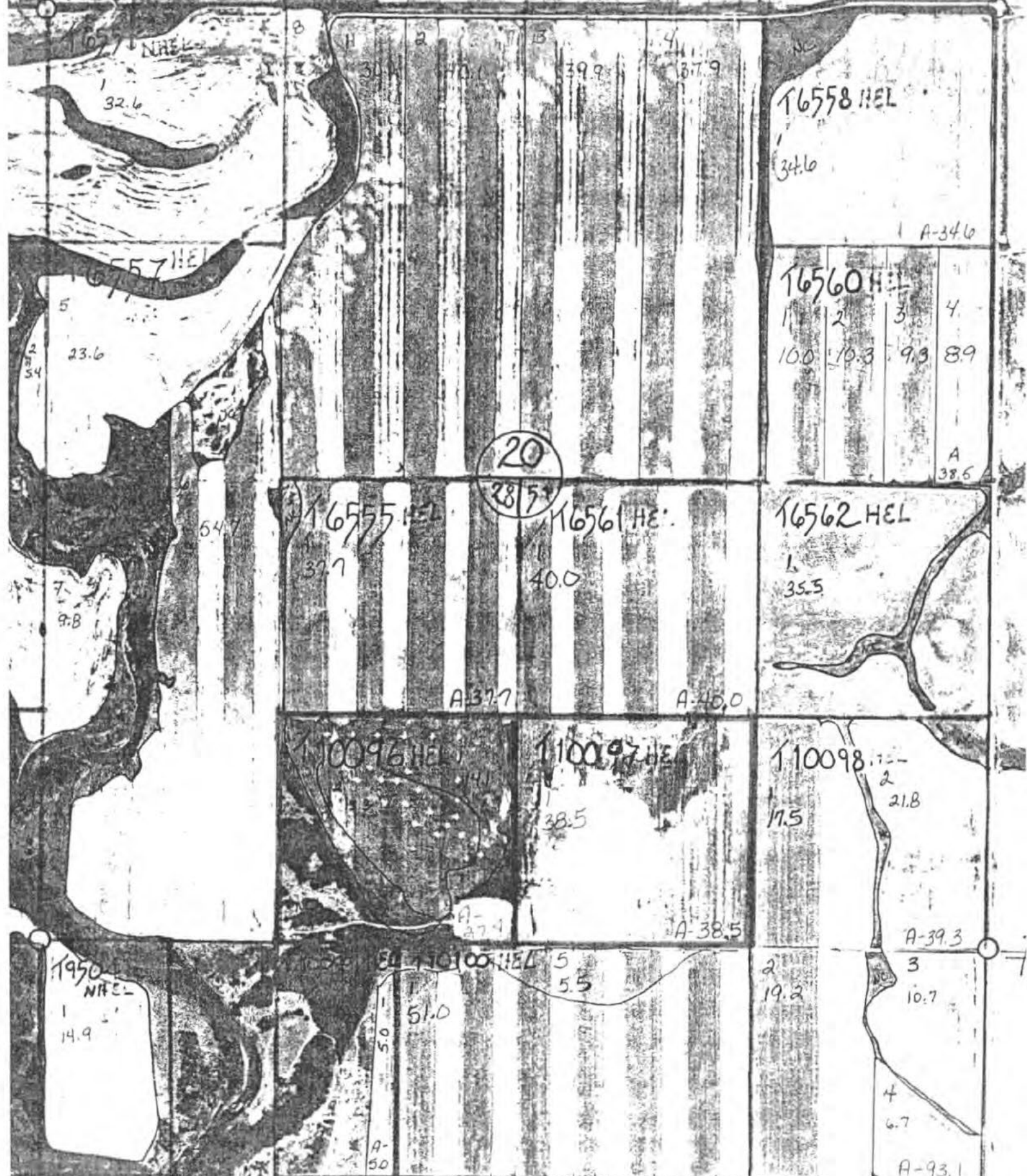
FOR OFFICE USE ONLY!

EFFECTIVE AG-USE _____	VARIETY OF OFAV _____
MINUS _____	
CONTRACT ACREAGE _____	INSURANCE CO _____
EQUALS _____	
EXCESS ACREAGE _____	409-\$20.00 VISIT _____



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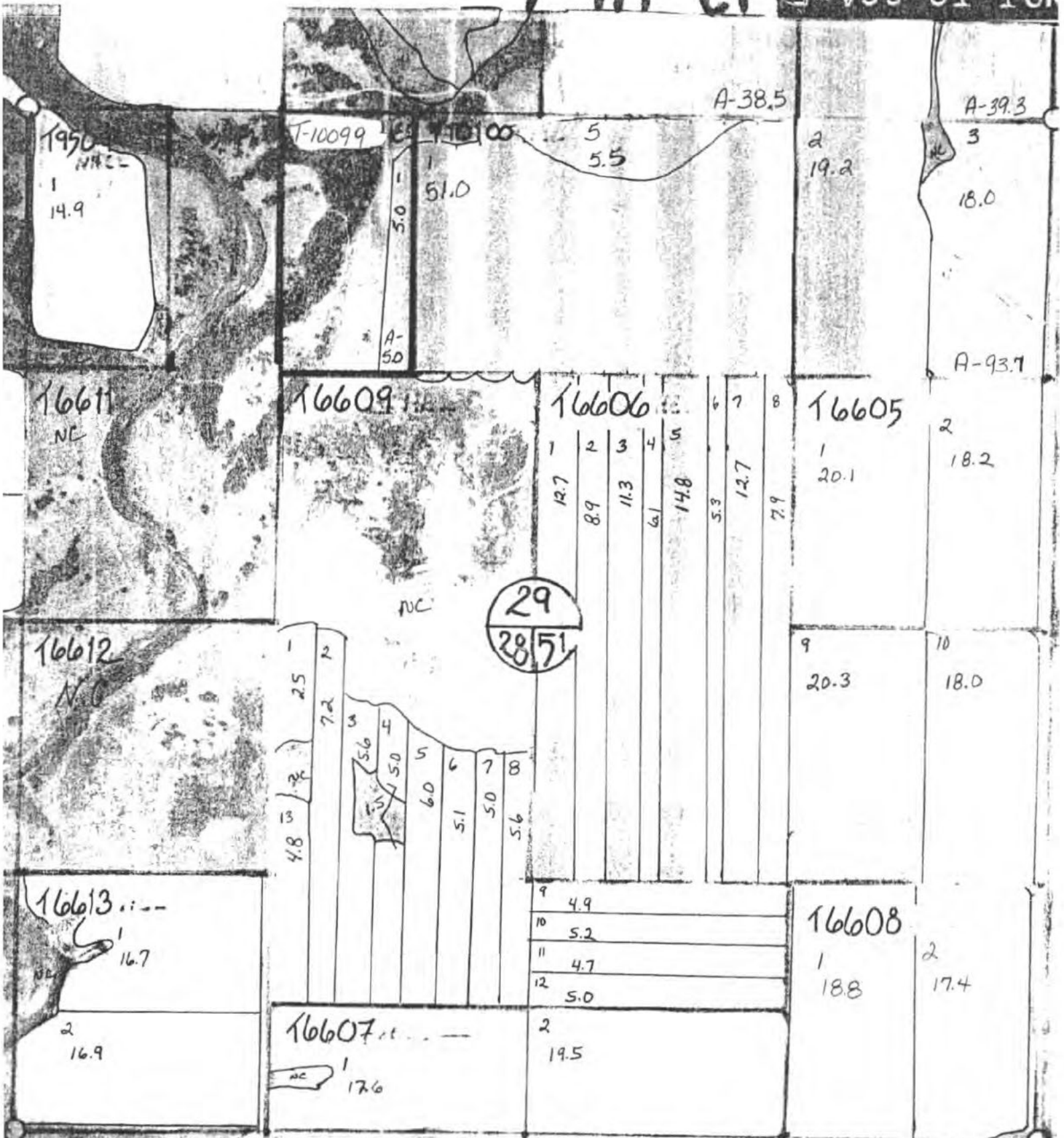
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7-14-21

NOT TO SCALE



2000

4943

UNITED STATES DEPARTMENT OF AGRICULTURE  
Farm Service Agency  
Roosevelt County FSA Office  
P O Box 519  
Culbertson MT 59218 0519  
PH (406) 787 6262  
FAX (406) 787 6132

"USDA is an equal opportunity provider, lender, and employer."

February 28, 2000

ALL CRP PRODUCERS

REFER TO: DLL

Dear Producer;

Enclosed is your 2000 crop certification form. To earn your CRP payment, the acres that contain cropland must be reported EVERY year even if they are not participating in AMTA, or the CRP annual payments will NOT be issued. The deadline to report these acres is July 15, 2000. There is a late fee charged after this July 15th deadline.

You have received a packet of maps with 2000 stamped on them. Complete one set of the maps by designating what is in every strip. Also, if you would fill the tract list sheets out by shares, tract, field and crop use, it will confirm the acreages that are on this farm in case we make a loading error. Please make all corrections on the FSA-578 "Report of Acreage" that has been printed out and is enclosed. The maps must be returned to our office, along with the signed and dated FSA-578 form. If they are mailed they must be postmarked by the July 15th deadline.

If your CRP contains permanent grasses, indicate the CRP practice that pertains by using the numbers listed by the practices below.

CRP intended use codes:

- CP1 - Establishment of permanent introduced grasses and legumes (cost-share was involved)
- CP2 - Establishment of permanent native grasses (cost-share involved)
- CP3 - Tree planting
- CP4 - Permanent wildlife habitat
- CP5 - Field windbreak establishment
- CP8 - Grass waterways
- CP10 - Vegetative cover, trees, already established (grasses established prior to CRP - no cost share involved)
- CP12 - Wildlife food plot
- CP23 - Wetland restoration
- CP25 - Native Grasses - Rare & Declining habitat

\*\*\* If you have any questions, please call before returning any documents so that we can update your files more efficiently.

Sincerely;



Carol Y Ritter-Fellman, CED  
Roosevelt County FSA Office



**NONINSURED CROP DISASTER ASSISTANCE PROGRAM  
(NAP)**

NAP is intended to provide protection against widespread disaster, not individual losses. The NAP program is a VOLUNTARY program. This program does not cost you anything if you choose to participate. To be eligible for NAP payments, producers shall:

**\* FILE AN ACREAGE REPORT FOR CROPS ELIGIBLE FOR POTENTIAL BENEFITS UNDER NAP.**

**ACREAGE REPORTS INCLUDE:**

- 1) Crop, practice, and intended use
- 2) All acreage in the county of the eligible crop
- 3) Shares of all producers who have a risk in the production of the crop at the time of planting
- 4) The date the crop was planted

**NOTE:** The final date for reporting any specific crop acreage for which NAP assistance may be paid is the earlier of the established acreage reporting date for the specific crop OR 15 calendar days BEFORE the onset of harvest of the specific crop acreage being reported.

**\* CERTIFY CROP PRODUCTION FOR APPROVED YIELD CALCULATION.**

- 1) For crop acreage reported, the producer must report the production
  - a) after harvest of the crop acreage is complete
  - b) before the final acreage reporting date for the next crop year
- 2) For pasture acres, producers will provide type and number of livestock with total days grazed

The requirement for reports of acreage and production is independent of whether a crop loss occurs. Producers failing to timely report acreage and production could be ineligible for NAP assistance or have reduced approved yield calculations.

**\* TIMELY PROVIDE COC (COUNTY COMMITTEE) WITH ANY NOTICE OF LOSS BY FILING AN FSA-574 (REQUEST FOR ACREAGE/DISASTER CREDIT).**

- 1) Producers with a share in the eligible crop must provide a notice of damage or loss timely.
  - a) Within 15 days of the disaster, or when the loss becomes evident.
  - b) Within 15 days of the date damage to the crop acreage is apparent to the producer.  
The Montana State Committee has determined that producers should know if they suffered a loss when harvest is complete.
  - c) Whenever a producer plans to dispose of the crop other than as the initial intended use.

Notices of loss cannot be taken over the phone. Form FSA-574 must be completed and signed in order for the notice of loss to be complete. County Committees and State Committees do not have the authority to approve late filed notices of loss, therefore it is important that losses are timely filed.

NAP payments are issued if a NAP AREA REQUEST is approved by the Montana State Committee. NAP area eligibility occurs if a natural disaster causes eligible crops to suffer at least a 35% loss of the area-expected yield. County offices must have documentation to show which crops in the area have suffered enough of a loss to apply. The "AREA" may be 1) a county, 2) at least 320,000 acres, or 3) acreage on which the value of all crops is \$80 million or more.

Prepared: 02/26/2000  
Crop Year: 2000  
Page: 1

UWNEK 1 - LAUKA BLEZAKU



MONTANA  
 ROOSEVELT  
 Report ID: FSA-156EZ-R001

U.S. Dept. of Agriculture  
 Farm Service Agency  
 Abbreviated 156 Farm Record

Prepared: 02/25/2000  
 Crop Year: 2000  
 Page: 2

TRACT NO.	FARMLAND	CRUPLAND	AG USE LAND	CRP CROPLAND ACRES	WSP ACRES	EFF AG USE	CRP MPL ACRES
10099	20.0	5.0	5.0	.0	.0	5.0	.0
CRUP NAME	PFC ACRES	PFC TRACT YIELD	CRP-15 REDUCTION ACRES	CRP TRACT YIELD	CRP PENDING ACRES	AVG DBL-CROPPED ACRES	
WHEAT	0.8	23	0.0	0	0.0	0.0	

Photo Grid Descr: 12-14-L, 24-28-51

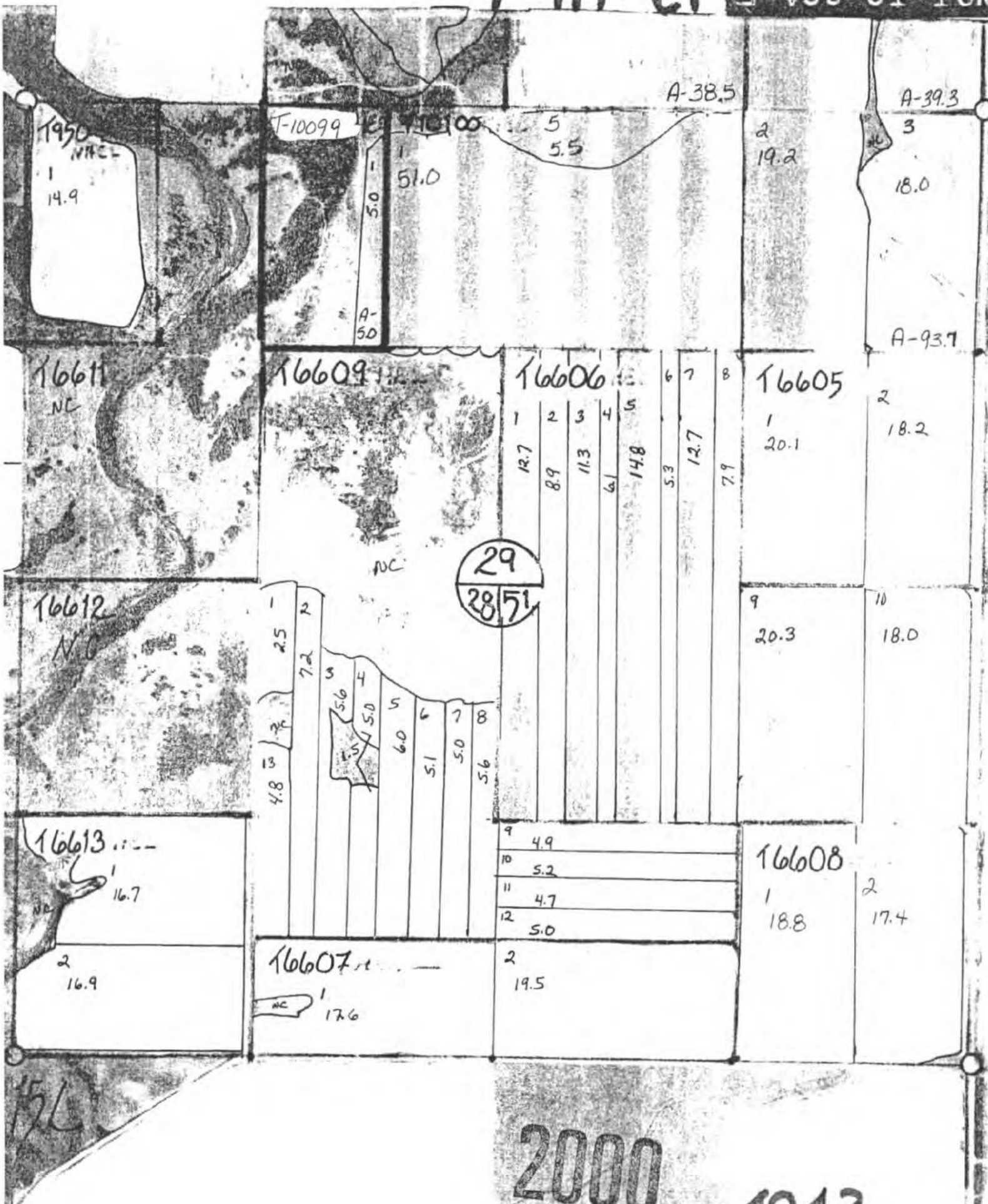
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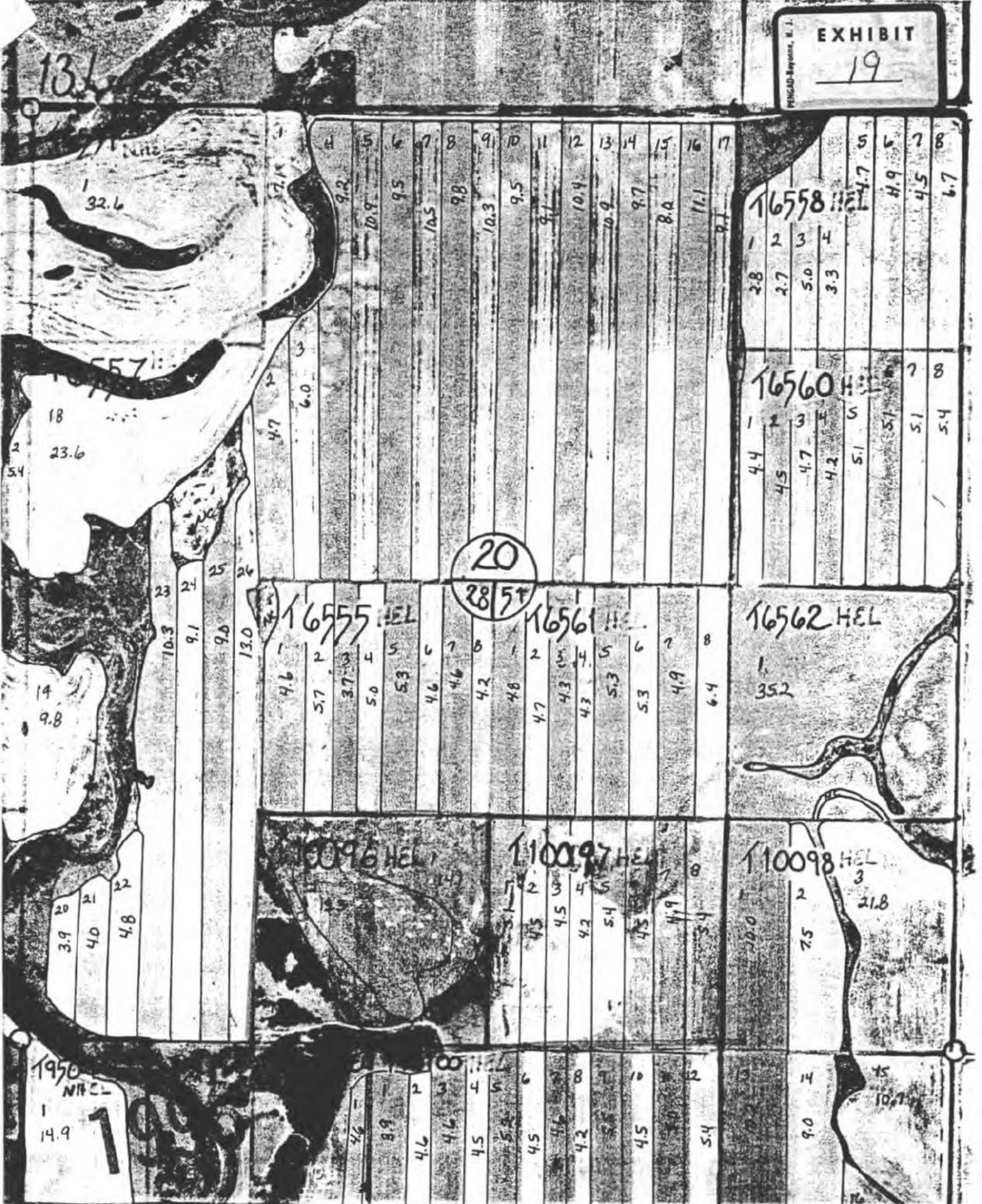
OWNER 1 - LAURA BLEAZARD

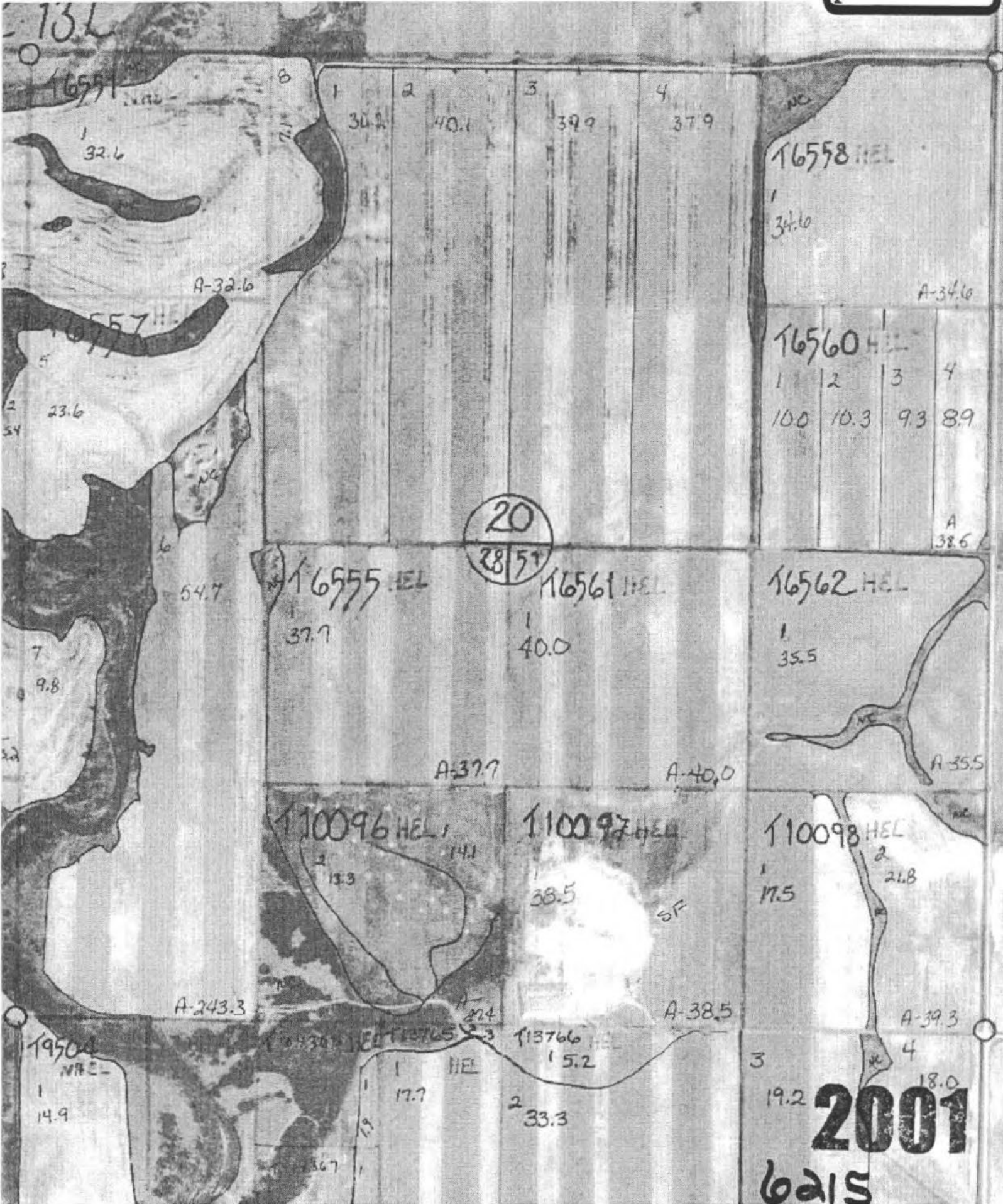
Handwritten labels and values on the grid:

- Top left: 16558 HEL, 32.6
- Top center: 30.1, 40.0, 39.9, 37.9
- Top right: 16558 HEL, 34.6, A-34.6
- Middle left: 16555 HEL, 32.7, A-32.7
- Center: 20 (circled), 28.5
- Middle center: 16561 HEL, 40.0, A-40.0
- Middle right: 16562 HEL, 35.3
- Bottom left: 1950 HEL, 14.9
- Bottom center-left: 1000 HEL, 5.0, A-50
- Bottom center-right: 110096 HEL, 38.5, A-38.5
- Bottom right: 110097 HEL, 38.5, A-38.5
- Far right: 110098 HEL, 21.8, A-39.3, 10.7, A-43.1

05  
12-146







ROOSEVELT, MONTANA

Form Approved - OMB No. 0560-0004

FSA-578(02-01-91)

REPORT OF ACREAGE

PROGRAM YEAR 2001  
MANUAL PROGRAM YEAR 2002  
DATE: 06-06-2001

FARM NUMBER: 6215

FARM SUMMARY

Operator Name and Address ID

LAURA BLEAZARD 2642  
PO BOX 1623  
POPLAR, MT 59255-1623

Original: DU

Revision: \_\_\_\_\_

Cropland: 67.6

Farmland: 88.0

NOTE: The following statements are made in accordance with the Privacy Act of 1974(5 USC 552a). The Agricultural Adjustment Act of 1938, as amended, and the Agricultural Act of 1949, as amended, authorized the collection of the following data. The data will be used to determine eligibility for assistance. Furnishing the data is voluntary, however, without it assistance cannot be provided. The data may be furnished to any agency responsible for enforcing the provisions of the Acts.

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate, or any other aspect of this collection of information, including suggestions for reducing this burden, to the Department of Agriculture, Clearance Officer, Ag Box 7630, Washington, D.C. 20250; and to the Office of Management and Budget, Paperwork Reduction Project (OMB No. 0560-0004), Washington, D.C. 20503. RETURN THIS COMPLETED FORM TO YOUR FSA COUNTY OFFICE.

Producer Name	ID	Crop	Share
LAURA BLEAZARD	2642		1.0000

Crop Type	Prac	IU	Reported	Determined	Crop Type	Prac	IU	Reported	Determined
FALLOW	N		67.6		OFAY	N		.0	

OPERATOR'S CERTIFICATION: I certify to the best of my knowledge and belief that the acreage of crops and land uses listed herein are true and correct, and that all required crops and land uses have been reported for the farm as applicable. The signing of this form gives FSA representatives authorization to enter and inspect crops and land uses on the above identified land.

Operator's Signature

Laura Bleazard

Date

06/06/01

This program or activity will be conducted on a nondiscriminatory basis without regard to race, color, religion, national origin, sex, age, marital status, or disability.

EXHIBIT

21

ROOSEVELT, MONTANA

Form Approved - OMB No. 0560-0004

FSA-578(02-01-91)

## REPORT OF ACREAGE

PROGRAM YEAR 2001  
MANUAL PROGRAM YEAR 2002  
DATE: 06-06-2001

FARM NUMBER: 6215

## FARM AND TRACT DETAIL LISTING

Operator Name and Address ID

Original: JK

LAURA BLEAZARD 2642

Revision: \_\_\_\_\_

POPLAR, MT 59255-1623

Cropland: 67.6

Farmland: 80.0

Tract Number	Field Num ID	Irr Prc	Crop	Var/ Type	Int Use	Lnd Use	Reported Acreage	Determined Acreage	O/ H	Crop Stat	Prod Share	Prod ID	Cov Flag	Crop Type	Planting Date
0		Ni	OFAY			F FAV	.00				1.0000	2642			
Crop Type Prac IU Non-Irrig Irrigated OFAY N .0 Photo Number/Legal Description: None Cropland: .0 Reported: .0 Difference: .0 Reported D,S,R: .0															
8182	1	Ni	FALOW				29.10			1	1.0000	2642			
Crop Type Prac IU Non-Irrig Irrigated FALOW N 29.1 Photo Number/Legal Description: 12-15-L, 05-27-51 Cropland: 29.1 Reported: 29.1 Difference: .0 Reported D,S,R: .0															
10097	1	Ni	FALOW				38.50			1	1.0000	2642			
Crop Type Prac IU Non-Irrig Irrigated FALOW N 38.5 Photo Number/Legal Description: 12-14-L, 20-28-51 Cropland: 38.5 Reported: 38.5 Difference: .0 Reported D,S,R: .0															

ROOSEVELT, MONTANA

Form Approved - OMB No. 0560-0004

FSA-578(02-01-91)

## REPORT OF ACREAGE

PROGRAM YEAR 2001  
MANUAL PROGRAM YEAR 2002  
DATE: 06-06-2001

FARM NUMBER: 5226

## FARM SUMMARY

Operator Name and Address ID

Original: DU

LAURA BLEAZARD 2642

Revision: \_\_\_\_\_

POPLAR, MT 59255-1623

Cropland: 18.0

Farmland: 20.0

NOTE: The following statements are made in accordance with the Privacy Act of 1974(5 USC 552a). The Agricultural Adjustment Act of 1938, as amended, and the Agricultural Act of 1949, as amended, authorized the collection of the following data. The data will be used to determine eligibility for assistance. Furnishing the data is voluntary, however, without it assistance cannot be provided. The data may be furnished to any agency responsible for enforcing the provisions of the Acts.

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate, or any other aspect of this collection of information, including suggestions for reducing this burden, to the Department of Agriculture, Clearance Officer, Ag Box 7630, Washington, D.C. 20250; and to the Office of Management and Budget, Paperwork Reduction Project (OMB No. 0560-0004), Washington, D.C. 20503. RETURN THIS COMPLETED FORM TO YOUR FSA COUNTY OFFICE.

Producer Name	ID	Crop	Share
LAURA BLEAZARD	2642		1.0000

Crop Type	Prac	IU	Reported	Determined	Crop Type	Prac	IU	Reported	Determined
FALLOW	N		18.0		OFAY	N		.0	

OPERATOR'S CERTIFICATION: I certify to the best of my knowledge and belief that the acreage of crops and land uses listed herein are true and correct, and that all required crops and land uses have been reported for the farm as applicable. The signing of this form gives FSA representatives authorization to enter and inspect crops and land uses on the above identified land.

Operator's Signature

Date

Laura Bleazard06/06/01

This program or activity will be conducted on a nondiscriminatory basis without regard to race, color, religion, national origin, sex, age, marital status, or disability.

COPY

ROOSEVELT, MONTANA

Form Approved - OMB No. 0560-0004

FSA-578(02-01-91)

## REPORT OF ACREAGE

PROGRAM YEAR 2001  
MANUAL PROGRAM YEAR 2002  
DATE: 06-06-2001

FARM NUMBER: 5226

## FARM AND TRACT DETAIL LISTING

Operator Name and Address ID

Original: DM

LAURA BLEAZARD 2642

Revision: \_\_\_\_\_

POPLAR, MT 59255-1623

Cropland: 18.0

Farmland: 20.0

Tract Number	Field Num ID	Irr Prc	Crop	Var/ Type	Int Use	Lnd Use	Reported Acreage	Determined Acreage	O/ H	Crop Stat	Prod Share	Prod ID	Cov Flag	Crop Type	Planting Date
0		Ni	OFAV			F FAV	.00				1.0000	2642			
Crop Type Frac IU Non-Irrig Irrigated OFAV N .0															
Photo Number/Legal Description: None															
Cropland: .0 Reported: .0 Difference: .0 Reported D,S,R: .0															
13765	1	Ni	FALOW				17.70			I	1.0000	2642			
	1B	Ni	FALOW				.30			I	1.0000	2642			
Crop Type Frac IU Non-Irrig Irrigated FALOW N 18.0															
Photo Number/Legal Description: 12-14-L, 29-28-51															
Cropland: 18.0 Reported: 18.0 Difference: .0 Reported D,S,R: .0															

ROSS J. BLEAZARD  
LAURA D. BLEAZARD  
[REDACTED]  
POPLAR, MT 59255

1-3-4-5  
TRADERS STATE BANK  
P.O. BOX 188  
POPLAR, MT 59255

R/E

2-26-076  
Loan Number 41688  
Date NOVEMBER 16, 1992  
Maturity Date JAN. 25, 1998  
Loan Amount \$ 60,000.00  
Renewal Of \_\_\_\_\_

BORROWER'S NAME AND ADDRESS  
"I" includes each borrower above, joint and severally.

LENDER'S NAME AND ADDRESS  
"You" means the lender, its successors and assigns.

For value received, I promise to pay to you, or your order, at your address listed above the **PRINCIPAL** sum of SIXTY THOUSAND AND NO/100\*  
\* \* \* \* \* Dollars \$ 60,000.00

☐ Single Advance: I will receive all of this principal sum on \_\_\_\_\_. No additional advances are contemplated under this note.  
☒ Multiple Advance: The principal sum shown above is the maximum amount of principal I can borrow under this note. On NOVEMBER 16, 1992

I will receive the amount of \$ 38,000.00 and future principal advances are contemplated.  
Conditions: The conditions for future advances are UPON APPROVAL OF TRADERS STATE BANK.

☐ Open End Credit: You and I agree that I may borrow up to the maximum amount of principal more than one time. This feature is subject to all other conditions and expires on \_\_\_\_\_.  
☒ Closed End Credit: You and I agree that I may borrow up to the maximum only one time (and subject to all other conditions).

INTEREST: I agree to pay interest on the outstanding principal balance from NOVEMBER 16, 1992 at the rate of 8.5%  
per year until JANUARY 25, 1998

☐ Variable Rate: This rate may then change as stated below.

☐ Index Rate: The future rate will be \_\_\_\_\_ the following index rate: \_\_\_\_\_

☐ No Index: The future rate will not be subject to any internal or external index. It will be entirely in your control.

☐ Frequency and Timing: The rate on this note may change as often as \_\_\_\_\_  
A change in the interest rate will take effect \_\_\_\_\_

☐ Limitations: During the term of this loan, the applicable annual interest rate will not be more than \_\_\_\_\_ % or less than \_\_\_\_\_ %.

Effect of Variable Rate: A change in the interest rate will have the following effect on the payments:

☐ The amount of each scheduled payment will change.

☐ The amount of the final payment will change.

ACCRUAL METHOD: Interest will be calculated on a ACTUAL/365 basis.

POST MATURITY RATE: I agree to pay interest on the unpaid balance of this note owing after maturity, and until paid in full, as stated below:

☒ on the same fixed or variable rate basis in effect before maturity (as indicated above).

☐ at a rate equal to \_\_\_\_\_

☒ LATE CHARGE: If a payment is made more than 10 days after it is due, I agree to pay a late charge of 5.000% WITH A  
MAXIMUM OF \$5.00

☒ ADDITIONAL CHARGES: In addition to interest, I agree to pay the following charges which ☐ are ☒ are not included in the principal amount above:  
LOAN FEE, RECORDING FEES, TITLE INSURANCE

PAYMENTS: I agree to pay this note as follows:

☐ Interest: I agree to pay accrued interest \_\_\_\_\_

☐ Principal: I agree to pay the principal \_\_\_\_\_

☒ Installments: I agree to pay this note in 60 payments. The first payment will be in the amount of \$ 520.00  
and will be due FEBRUARY 25, 1993. A payment of \$ 520.00 will be due \_\_\_\_\_  
EACH MONTH thereafter. The final payment of the entire  
unpaid balance of principal and interest will be due JANUARY 25, 1998

ADDITIONAL TERMS:

MINIMUM FINANCE CHARGE OF \$25.00 APPLIES.

THIS LOAN IS FURTHER SECURED WITH A MORTGAGE DATED NOVEMBER 16, 1992.

PURPOSE: The purpose of this loan is BUSINESS: BUY&MOVE  
HOUSE, DIG BASEMNT, IMPROVE PROPERTY

SIGNATURES: I AGREE TO THE TERMS OF THIS NOTE (INCLUDING  
THOSE ON PAGE 2). I have received a copy on today's date.

Signature for Lender

X Ross J. Bleazard  
ROSS J. BLEAZARD

JEFF RUFFATTO VICE PRESIDENT

LAURA D. BLEAZARD

Laura D. Bleazard

56,600.00

20495.



A. Settlement Statement

U.S. Department of Housing and Urban Development

OMB No. 2502-0265

B. Type of Loan

1. ☐ FHA 2. ☐ FmHA 3. ☐ Conv. Unins.  
4. ☐ VA 5. ☐ Conv. Ins.

6. File Number

7. Loan Number

8. Mortgage Insurance Case Number

C. Note: This form is furnished to give you a statement of actual settlement costs. Amounts paid to and by the settlement agent are shown. Items marked "(p.o.c.)" were paid outside the closing; they are shown here for informational purposes and are not included in the totals.

D. Name and Address of Borrower

ROMAN M. HENDRICKSON &  
JOAN E. HENDRICKSON  
P.O. BOX 1605  
POPLAR, MT 59255

E. Name, Address, and Tax Identification Number of Seller

LAURA D. BLEAZARD  
[REDACTED]  
POPLAR, MT 59255

F. Name and Address of Lender

TRADERS STATE BANK  
P.O. Box 188  
POPLAR, MT 59255

G. Property Location (Use complete address, including legal description if necessary)

Rural Location Located in the  
SW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$  of Section 29, Township 28  
North, Range 51 East, Roosevelt County  
Montana.

H. Settlement Agent Name, Address, and Tax Identification Number

ROOSEVELT COUNTY ABSTRACT COMPANY  
P.O. BOX 176  
WOLF POINT, MT 59201 81-0481098

I. Settlement Date

TRADERS STATE BANK  
POPLAR, MT 59255

June 1, 1998

J. Summary of Borrower's Transaction

100. Gross Amount Due From Borrower

101. Contract sales price

102. Personal property

103. Settlement charges to borrower (line 1400)

104.

105.

Adjustments for items paid by seller in advance

106. City/town taxes to

107. County taxes to

108. Assessments to

109.

110.

111.

112.

120. Gross Amount Due From Borrower

200. Amounts Paid By Or In Behalf Of Borrower

201. Deposit or earnest money

202. Principal amount of new loan(s)

203. Existing loan(s) taken subject to

204. 2nd Mortgage back to Seller

205.

206.

207.

208.

209.

Adjustments for items unpaid by seller

210. City/town taxes to

211. County taxes to

212. Assessments to

213.

214.

215.

216.

217.

218.

219.

220. Total Paid By/For Borrower

300. Cash At Settlement From/To Borrower

301. Gross amount due from borrower (line 120)

302. Less amounts paid by/for borrower (line 220)

303. Cash ☒ From ☐ To Borrower

The undersigned hereby acknowledges receipt of a completed copy of pages 1 and 2 of this statement and any attachments referred to herein.

Borrower

Borrower

K. Summary of Seller's Transaction

400. Gross Amount Due To Seller

401. Contract sales price

\$80,000.00

402. Personal property

403.

404.

405.

Adjustments for items paid by seller in advance

406. City/town taxes to

407. County Taxes to

408. Assessments to

409. Byers pro-rated share 98 tax 308.87

410.

411.

412.

420. Gross Amount Due To Seller

\$80,308.87

500. Reductions In Amount Due To Seller

501. Excess deposit (see instructions)

502. Settlement charges to seller (line 1400)

1,115.37

503. Existing loan(s) taken subject to

504. Payoff of first mortgage loan

54,452.94

505. Payoff of second mortgage loan

506. Mortgage from Buyer to Seller 10,000.00

507. Earnest money paid to Seller 500.00

508.

509.

Adjustments for items unpaid by seller

510. City/town taxes to

511. County taxes to

512. Assessments to

513. 2nd half of 1997 taxes 328.18

514. Escrowed pro-rated 1998 tax 361.13

515.

516.

517.

518.

519.

520. Total Reduction Amount Due Seller

\$66,757.62

600. Cash At Settlement To/From Seller

601. Gross amount due to seller (line 420)

\$80,308.87

602. Less reductions in amount due seller (line 520)

\$13,551.25

603. Cash ☒ To ☐ From Seller

\$13,551.25

SELLER'S TAX IDENTIFICATION NUMBER SOLICITATION AND CERTIFICATION

You are required by law (unless you are a corporation or governmental unit) to provide the Settlement Agent named above with your correct taxpayer identification number. If you do not provide the Settlement Agent with your correct taxpayer identification number, you may be subject to civil or criminal penalties imposed by law. Under penalties of perjury, I certify that the number shown on this statement is my correct taxpayer identification number.

Seller's Signature

Previous Edition Is Obsolete

SELLER(S) COPY

HUD-1(3-86) RESPA, HB 4305.2

BANKERS SYSTEMS, INC., ST. CLOUD, MN (1-800-397-2341) FORM HUD-1-TE 5/1/91

(page 1 of 2)

Know All Men by These Presents:

That..... TRADERS STATE BANK OF POPLAR, MONTANA

do..... hereby certify and declare that certain Mortgage, bearing date the.....16TH.....day of  
NOVEMBER....., A. D. 19..98., made and executed by.....

ROSS J. & LAURA D. BLEAZARD

the part..IES.....of the First part mentioned in said Mortgage to.....

TRADERS STATE BANK OF POPLAR, MONTANA

the part..X.....of the Second part, therein mentioned; and given to secure the payment of  
SIXTY THOUSAND DOLLARS AND 00/100\*\*\*\*\*(\$60,000.00)

.....and which Mortgage was duly recorded in the office of the County Clerk and Recorder of  
ROOSEVELT.....County, State of Montana, on the.....19TH.....day of  
NOVEMBER....., A. D. 19..92., at 11:30.....o'clock.....A. M., in Book  
.....548.....of Mortgages on Pages 415-419 INCL and the said Mortgage together with the debt thereby  
secured, is hereby fully paid, satisfied and discharged.

IN WITNESS WHEREOF, the Corporation has caused its corporate  
name to be subscribed and its corporate seal to be affixed by the  
proper officers thereto duly authorized on this.....1ST  
day of.....JUNE....., 19..98..

MICHEAL C. LEINEN, VP/CASHIER Secretary.

TRADERS STATE BANK

By.....JEFF RUFFATTO.....President.

STATE OF MONTANA,

County of.....ROOSEVELT.....} ss.

On this.....1ST.....day of.....JUNE.....in the year nineteen  
hundred and NINETY EIGHT.....before me.....FRANCIS M. HUNT....., a Notary Public  
for the State of Montana, personally appeared.....JEFF RUFFATTO & MICHEAL C. LEINEN.....

known to me to be the...PRESIDENT & VICE PRESIDENT/CASHIER...of the corporation that executed  
the within instrument, and acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official  
Seal the day and year in this certificate first above written.

Notary Public for the State of Montana

Residing at.....POPLAR.....My Commission expires.....JULY 31, 1999.....

Satisfaction of Mortgage

(CORPORATION)

Traders State Bank

TO

Ross J. Bleazard and

Laura D. Bleazard

INDEXED

State of Montana )  
County of Roosevelt ) ss. 351005

Filed for Record this 1st day of June  
A.D. 1998 at 11:40 am and duly recorded  
in volume 580 on page 289 in the book of  
Satisfactions, Records of Roosevelt  
County, Montana.

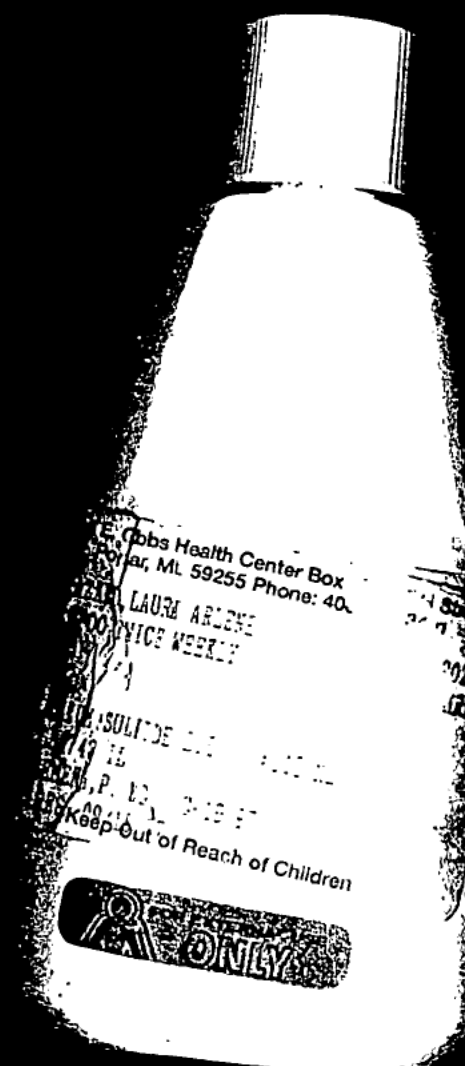
County Recorder.

Fee: \$6.00 pd.  
Laura D. Bleazard  
P O Box 1415, Poplar, MT. 59255

By.....Deputy.

Return to.....

EXHIBIT



Robb Health Center Box  
Polar, MI 59255 Phone: 40.  
LAURE ARLENE  
NOV 15 2002  
RISPERIDONE ORAL SOLUTION  
1 mg/mL  
P. 12 2002  
Keep Out of Reach of Children

**Rx ONLY**

EXHIBIT  
26

#### IV Denise Grainger

##### A. Location

Denise Grainger lives in a house in the northwest quarter of Section 33, which is south and west of the Biere wells (see map).

##### B. Property Interest And Basis Of Claim

Denise Grainger makes "household" claims based upon her mother's (Trivian) half interest in an allotment in Section 33. Denise Grainger lives on her Mother's allotted land, pursuant to a Fort Peck Housing Lease (document 133-134 attached.)

##### C. Well Data

Denise Grainger is associated with well M-36, ( located in the northwest corner of Section 33). M-36 was drilled in 1989, (document 135 attached) and USGS monitoring data from 1990 and 1997 is reflected in attached documents 136 - 37. In 1989, chlorides were at 47. In 1990 chlorides were at 40 and dissolved solids at 2,120. In 1997, chlorides were at 76 and dissolved solids were at 2,370. Denise Grainger notes that in the early 1990's she noticed that the water acquired a salty taste.

##### D. Additional Possible Discovery

Get additional documents and information regarding terms of Lease, including date of Lease, disclosures regarding water, Lease terms, etc.



# United States Department of the Interior

U.S. GEOLOGICAL SURVEY  
Water Resources Division  
Federal Building, Room 428  
301 South Park Avenue, Drawer 10076  
Helena, Montana 59626-0076

January 9, 1998

Ms. Donna Buckles-Witmer  
P.O. Box 885  
Poplar, Montana 59255

Dear Donna Buckles-Witmer:

Enclosed for your information are the results of a chemical analysis of water collected from your well during August 1997. These results are tabulated with previous analytical results for your information.

As a basis for comparison, we have enclosed a Montana Bureau of Mines Form 196, compiled by Dr. John Sondereggar, which lists some of the water-quality criteria established by the U.S. Environmental Protection Agency (EPA), and also explains the significance of some of the water-quality parameters.

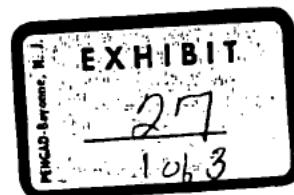
We appreciate your cooperation in allowing us to obtain the water sample. If you have any questions concerning the analytical results, please feel free to call me at 406-441-1319.

Sincerely,

*Joanna Thamke*

Joanna N. Thamke  
Hydrologist

Enclosures



000010

PROVISIONAL

Physical properties and major-ion concentrations in water samples collected from D. Buckles-Witmer's well in the East Poplar oil field, Fort Peck Indian Reservation, northeastern Montana

Site number	Geologic unit	Depth of well (feet below land surface)	Collecting agency <sup>2</sup>	Analyzing agency <sup>2</sup>	Date sample collected	Specific conductance, onsite (µS/cm)	pH, onsite (standard units)	Water temperature, onsite (°C)	Density (g/mL at 20°C)	Hardness, total (mg/L as CaCO <sub>3</sub> )	Calcium, dissolved (mg/L as Ca)
28N51E29AACC01	Alluvium	72	IHS	ASCHM	11-04-94	1,846	7.7				95
			USGS	USGS	08-27-97	2,690	7.6				100

<sup>1</sup> Laboratory measurement.

<sup>2</sup> ASCHM, Astro-Chem Service Laboratory; IHS, Indian Health Service; USGS, U.S. Geological Survey.

Magnesium, dissolved (mg/L as Mg)	Sodium, dissolved (mg/L as Na)	Sodium adsorption ratio	Potassium, dissolved (mg/L as K)	Alkalinity, onsite (mg/L as CaCO <sub>3</sub> )	Sulfate, dissolved (mg/L as SO <sub>4</sub> )	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)	Bromide, dissolved (mg/L as Br)	Iodide, dissolved (mg/L as I)	Dissolved solids, computed (mg/L)	Site number
11	299	-	7	410	295	221				1,170	28N51E29AACC01
65	384	7	6.7	364	260	520	.2			1,570	

000011

# ASTRO-CHEM LAB, INC.

4102 2nd Ave. West

Williston, North Dakota 58802-0972

P.O. Box 972

Phone: (701) 572-7355

## WATER ANALYSIS REPORT

SAMPLE NUMBER W-94-3273

DATE OF ANALYSIS 11-14-94

COMPANY Indian Health Service

WITMER'S

CITY Wolf Point

STATE MT

WELL NAME AND/OR NUMBER Well NE of Poplar

DATE RECEIVED 11-10-94

DEPTH

SAMPLE SOURCE Well

LOCATION

OF SEC.

TWN.

RANGE

COUNTY

DISTRIBUTION Rod Bruner - Box 729 - Wolf Point, MT  
59201

CONDUCTIVITY @ 77°F = 1845.7 µMHOS/cm

pH = 7.67

RESIDUAL SODIUM CARBONATE = 2.40 MEQ/L

HARDNESS = 16.9 Grains/gal

SODIUM ADSORPTION RATIO = 7.64

HARDNESS = 290 mg/L

TOTAL DISSOLVED SOLIDS (CALCULATED) = 1429 mg/L

SODIUM CHLORIDE (CALCULATED) = 364 mg/L

CATION	MEQ/L	mg/L	ANION	MEQ/L	mg/L
CALCIUM	4.8	95	CHLORIDE	6.2	221
MAGNESIUM	1.0	11	CARBONATE	0.0	0
SODIUM	13.0	299	BICARBONATE	8.2	500
IRON	0.0	0.7	SULFATE	6.2	295
POTASSIUM	0.2	7	NITRATE-N	0.0	0.1
TOTAL IRON =			1.92 mg/L		

REMARKS Date Sampled 11-10-94 @ 9:00 AM (MST)

0000012

EN **LABORATORIES, INC.**P.O. BOX 30918 - 1120 SOUTH 27TH STREET - BILLINGS, MT 59107-0918 - PHONE (406) 252-6325  
FAX (406) 252-6069 - 1-800-735-4489**LABORATORY REPORT**J: Mark Adair  
ADDRESS: [REDACTED]  
Plentywood, MT 59254LAB NO.: 95-14611  
DATE: 02/09/95 daWATER ANALYSISDonna Buckles  
Submitted 01/25/95

<u>Constituent</u>	<u>Drinking Water Quality Standard Max, mg/l</u>	<u>Found in Sample, mg/l</u>	<u>Date Analyzed</u>
Potassium		5	01/26/95
Sodium		291 ✓	01/26/95
Calcium		56	01/26/95
Magnesium		37	01/26/95
Sulfate	250	243	01/26/95
Chloride	250	250 ✓	01/26/95
Carbonate		0	01/27/95
Bicarbonate		443	01/27/95
Total Dissolved Solids @ 180°C	1500	1200	01/26/95
Total Hardness as CaCO3		290	01/26/95
Total Alkalinity as CaCO3		363	01/27/95
pH	6.5 - 8.5	8.1 s.u.	01/27/95
Nitrate plus Nitrite as N	10	<0.05	01/26/95
Fluoride	4.0	0.37	01/31/95
Gross Alpha	15	<1.0 pCi/l	02/02/95

Total Metals

Arsenic	0.05	0.008	01/28/95
Barium	2.0	<0.1	01/30/95
Cadmium	0.005	<0.001	01/30/95
Chromium	0.1	<0.01	01/30/95
Iron	0.3	1.96	01/30/95
Lead	0.02	<0.01	01/30/95
Manganese	0.05	0.39	01/30/95
Mercury	0.002	<0.001	01/27/95
Selenium	0.05	<0.005	01/28/95
Silver	0.05	<0.005	01/30/95

REMARKS: Very hard water. The iron and manganese exceed maximums recommended for drinking water. This sample was not received by the laboratory properly preserved.

*well is south of SWD drainage. 9/27/95 RAB*

**CENTER FOR FAMILY AND COMMUNITY  
DEVELOPMENT (CFCD)  
MUN-GRANT APPLICATION**

Name of Applicant(s): NORTH 40 ENTERPRISE 512 OWNER-DONNA BUCKLES-WHITMER  
Address: POPLAR, MONTANA Zip Code 59255  
Telephone: (Home)                      Business ( ) (SAME)  
Amount of Request: \$1,000.00

Examples of ideas, plans, etc. include, but are not limited to:

*Family Business Plans  
School Clubs/Groups  
Recycling Projects  
Beautification Projects  
Recreation Projects  
Community Development Projects*

Purpose: As clearly as possible (be brief), explain your request for monetary assistance for your idea, goal and/or business plan. (Use additional sheets if necessary) **(SEE BUSINESS PLAN)**

APPLICANT/REPRESENTATIVE SIGNATURE Donna Buckles-Whitmer

DATE Nov 1, 1995

Please return form to:

**CENTER FOR FAMILY AND COMMUNITY DEVELOPMENT  
FORT BECK COMMUNITY COLLEGE  
P.O. BOX 398  
POPLAR, MT 59255**

**000725**

**EXHIBIT**

29

1 of 13

**THE NORTH 40 ENTERPRISE**

**BUSINESS PLAN**

**MARCH, 1995**

**Prepared by: Donna Buckles-Whitmer, 52% Owner**  
**P.O. Box 885**  
**Poplar, Montana**  
**59255**

**Home Phone: (406) 448-2599**  
**Work Phone: (406) 768-5138**  
**800-799-2926**

**000726**

I.

BUSINESS NAME: NORTH 40 ENTERPRISE

NAME (OWNERS):

DONNA BUCKLES-WHITMER - 52% OWNER

TRIBAL ENROLLMENT NUMBER:

200005000 (7/16 SIOUX)

SOCIAL SECURITY NUMBER:

5 [REDACTED]

ADDRESS:

[REDACTED]  
POPLAR, MONTANA  
59255

NAME (OWNERS):

WARREN WHITMER

SOCIAL SECURITY NUMBER:

[REDACTED]

ADDRESS:

[REDACTED] [REDACTED]  
POPLAR, MONTANA  
59255

NAME (OWNERS):

DARIN JAMIESON

SOCIAL SECURITY NUMBER:

[REDACTED] [REDACTED]

ADDRESS:

[REDACTED] [REDACTED]  
POPLAR, MONTANA  
59255

TELEPHONE:

HOME: ([REDACTED])

II.

## STATEMENT OF PURPOSE:

With the educational background and knowledge of the partners, The North 40 Enterprise will successfully incorporate the necessary ingredients into the business venture to enhance the professionalism of the building industry with the 12 years of experience of Jamieson and the beautification of the Fort Peck Reservation by the expertise of the 34 years in the tree, land-scape industry by Whitmer and the 28 years in the business management world of Buckles-Whitmer. The total makeup of the partners in The North 40 Enterprise are experienced, professional and fully capable of providing the necessary quality work and products needed on the Fort Peck Reservation.

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## II.

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**PART ONE - THE BUSINESS PLAN****I. DESCRIPTION OF THE BUSINESS****A. PURPOSES AND OBJECTIVES:****1. WHAT IS THE BUSINESS?**

The North 40 Enterprise will incorporate a number of viable ventures into the partnership which will include the following new businesses:

**a. BUILDING CONTRUCTION (NEW AND RENOVATIONS)****1. Service Business, focusing on:**

- The Fort Peck Housing Authority
- Federal/State Offices
- local residents
- local businesses

**b. LANDSCAPING, TREE TRIMMING AND REMOVAL****1. Service and Retail Business, focusing on:**

- Federal/Tribal Lands such as the Indian Health Services, the Tribal Complex, the Fort Peck Community College, the Bureau of Indian Affairs, the four (4) school districts, and the Fort Peck Housing Authority
- Community Lands such as the Bank building, city offices, Chamber of Commerces, local businesses, and residential homes

**c. GREEN HOUSE for retail**

- bedding plants, shrubs and small trees
- vegetables

## 2. BUSINESS JUSTIFICATION:

As of this date, there are approximately 15 construction businesses (information from the TERO Office), the following are listed in the Yellow Pages:

- Frazer - Todd Construction
- Wolf Point - Sansaver Construction
- Wolf Point - Sievers, Daryl Construction

- There are no businesses on the Reservation for land scaping and tree trimming
  - Wolf Point - Neubauers Tree Service has trees for sale, tree moving and stump removal only

The only Greenhouse business that exists on the Reservation is:

- Wolf Point - Friesen's Greenhouse

- a. The North 40 Enterprise realizes that there will be 1-3 million dollars in construction of new homes in the next two years with renovations scheduled for 800-900 homes on the Fort Peck Reservation. Tree work on the Reservation has been left in the hands of novice butchers that have in the past destroyed the few trees in the town of Poplar. To equalize the balance of nature, we must replant the trees for the beautification of our environment and assist in the photosynthesis process that is vital to our survival.

Due to the isolated area of the reservation in the far corner of the State of Montana, the people that do care about the land, their yards and the beautification of their small properties have to travel long distances for the bedding plants, shrubs and small tree retail businesses. Our business would eliminate this unnecessary travel for all people residing on and near the Reservation.

- b. SPECIAL COMPETENCIES are listed in the Statement of Purpose and the credentials of the partners.
- c. OPENING DATE is scheduled for March, 1995.
- d. EXPANSION PLANS INCLUDE:
1. to purchase excavation equipment to enlarge the construction entity
  2. to hire enrolled tribal members
  3. to research the possibility of writing grants to hire the youth for maintenance of yard work for summer employment
  4. to build a partnership with the Tribal Government to enable The North 40 Enterprise to possibly write grants for the beautification of the Reservation
  5. to submit bids for the construction, landscaping and maintenance of the new Tribal Complex, should it become a reality
  6. long range plans would include a mini-storage unit on The North 40 land just north of Poplar
- e. Justification to family, investors and customers are stated above.

3. PERMITS /ND LICENSES REQUIRED MAY INCLUDE:

- a. TRIBAL - TERO license
- b. STATE - Workmans Compensation

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**B. COMPETITION****1. LOCAL COMPETITORS PER YELLOW PAGES:**

NAMES	LOCATIONS
(BUILDING/CONSTRUCTION)	
SIEVERS, DARYL CONST.	WOLF POINT
TODD CONSTRUCTION	FRAZER
SANSAVER CONST.	WOLF POINT
(TREE TRIMMING/LANDSCAPING)	
NEUBAUERS TREE MOVING	WOLF POINT
(GREENHOUSES)	
FRIESEN'S GREENHOUSE	WOLF POINT

**2. COMPETITION WILL BE OVERCOME BY:**

Only minimal competition will be a factor in the new and renovation construction business. Bids will need to be submitted for each job. Knowledge will be gained as bids are submitted for the different entities such as the Fort Peck Housing Authority. This maturity, the quality of the workmanship and the ability of the workers will be recognized which will be the key factor.

**3. FUTURE COMPETITORS WILL BE MET BY:**

Once the reputation has been established for the quality work and quality products of The North 40 Enterprise, future competitors will not need to be a consideration.

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## E. MARKET PLAN

### 1. PROFILES:

The Fort Peck Reservation consists of 2,093,318 acres of land. Within its boundaries lie the towns of Frazer, Wolf Point, Poplar, Brockton, Oswego and Fort Kipp. The Assiniboine and Sioux Tribes of the Fort Peck Reservation have long realized that in order for their traditions and modern way of life to survive and flourish, they must become self-sufficient through successful and mutually beneficial economic development transactions with both the Governmental and private business sectors. The Tribal Executive Board has and will continue to encourage entrepreneurs of their enrolled membership. As an enrolled member, also an employee of the Tribes, I understand the importance of the quality craftsmanship, labor and products (service to the general public). The goal of The North 40 Enterprise is to successfully compete in today's extremely competitive economic environment, we must be dedicated to providing true quality in workmanship and have products available and at competitive prices to have timely productivity in a cost-effective manner for all people living within the confines of and near the Reservation.

### 2. DETAILS OF MARKET STRATEGIES ARE:

The identified market would include the Fort Peck Reservation and nearby communities which would include Nashua, Glasgow, Scobey, Culbertson, Plentywood, Lustre, Froid and communities and families across the Missouri River.

### 3. DETAILS OF MARKET PENETRATION/STRATEGIES ARE:

Other marketing strategies would include utilizing the media that is available locally as far as the newspapers, radio and television stations, and the Yellow Pages to advertise the partners' experience, this capability and professionalism.

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## II. OPERATION AND LOCATION

### A. OPERATIONS

#### 1. THOSE RESPONSIBLE FOR START UP ARE:

- a. 52% OWNER: DONNA L. BUCKLES-WHITMER
- b. CO-OWNER: WARREN WHITMER
- c. CO-OWNER: DARIN JAMIESON

#### 2. SUPPLIERS AND SOURCES ARE: (from previous business)

- a. Gardener Distributing - Billings
- b. Billings Nursery - Billings
- c. Sylvan Nursery - Billings
- d. Tvelene Sod Farm - Billings
- e. Sunrise - Poplar

**B. LOCATION****1. LOCATION:**

- a. Office, Greenhouse and Shop will be located 2 1/2 miles North on the Old Drive-in Road.

**2. ADVANTAGES OF THE LOCATION:**

- ✓ a. Enterprise owns 40 acres of land
- ✓ b. Excellent water with 20 gallons per minute.
- ✓ c. Space to expand (work shop, green house, garden, tree farm, and future plans for the mini-storage).
- d. Short distance from U.S. #2.

**DISADVANTAGES:**

- a. None could be noted at this time.

**3. TRAFFIC STUDIES INDICATE:**

- a. People residing in Northeastern Montana travel long distances for shopping of quality merchandise and professional friendly service.

C. OWNERSHIP AND MANAGEMENT

1. RESUMES (attached)

2. ORGANIZATION CHARTS (see below)

d. POSITION DESCRIPTIONS:

- 51% Owner, Donna Buckles-Whitmer

. Business Manager-Accountant

. Public Relations Officer

. Manager of future mini-storage

- Co-Owner, Warren Whitmer

. Manager of tree trimming, landscaping  
and maintenance program

. Manager of the Greenhouse

- Co-Owner, Darin Jamieson

. Manager of the new/renovation construction

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CENTER

Page 11 EQUIPMENT



# United States Department of the Interior

## OFFICE OF HEARINGS AND APPEALS

Rm. 3329, 316 North 26th St.  
Billings, Montana 59101

IN REPLY REFER TO:  
INDIAN PROBATE NO.:  
IP BI 147 B 83

IN THE MATTER OF THE ESTATE OF: )  
AUSTIN REGINALD SCOTT BUCKLES, SR.)  
DECEASED ALLOTTEE NO. 2293 OF THE )  
FORT PECK INDIAN RESERVATION IN )  
MONTANA )

ORDER APPROVING WILL  
AND  
DECREE OF DISTRIBUTION

In the matter of the last Will and Testament of Austin Reginald Scott Buckles, Sr., dated January 22, 1970, coming on for hearing at Poplar, Montana, on May 11, 1983, the following findings of fact and conclusions of law are made:

Austin Reginal Scott Buckles, Sr. died on January 23, 1982, at the age of 66 years. Had there been no Will, his heirs at law determined in accordance with the laws of the State of Montana, Montana Codes Annotated (1979), and the shares taken by each would be:

Audrey Edeline Buckles, non-Indian, wife, all.  
(Born: 9-18-20)

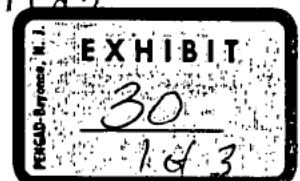
However, Austin Reginald Scott Buckles, Sr. died testate and the evidence established that the last Will and Testament was properly made and executed and that the testator had testamentary capacity. Accordingly, the Will should be approved.

The devise in Paragraph Fourth of the Will to Audrey A. Buckles Kirm devises land in Allotment No. 128, "...including house and improvements thereon,...". Testimony at the hearing and Agency records indicate that the house the decedent intended to devise is actually located on a twenty-acre tract in Allotment No. 129. Also all other devises in the Will are 40-acre tracts. The Will is so construed to give Audrey A. Buckles Kirm the twenty-acre tract on which the house is located and a twenty-acre tract in Allotment No. 128.

NOW, THEREFORE, by virtue of the power and authority vested in the Secretary of the Interior by Section 2 of the act of June 25, 1910 (36 Stat. 855), as amended, 25 USC, Sec. 373, and other applicable statutes, and pursuant to 43 CFR Part 4, I hereby order, adjudge, and declare that:

The Last Will and Testament of Austin Reginald Buckles, Sr., dated January 22, 1970, be and the same is hereby approved.

000142



The Superintendent, Fort Peck Indian Agency, shall cause to be made a distribution of the trust estate in accordance with said Last Will and Testament, each devisee to receive any cash accruing from their devised property as follows:

TO: AUSTIN RONALD BUCKLES, JR., FORT PECK UNALLOTTED 4483:

Full interest in that portion of decedent's own allotment No. 2293, described as follows:

T. 28 N., R. 51 E.,  
Sec. 4 - SE $\frac{1}{4}$ NE $\frac{1}{4}$

- containing 40 acres; and

TO: DIXIE C. BUCKLES KAINZ, FORT PECK UNALLOTTED 4747:

Full interest in SURFACE ONLY in Fort Peck Allotment No. 2306, David Roy Archambeau, described as:

T. 28 N., R. 51 E.,  
Sec. 4 - NE $\frac{1}{4}$ SW $\frac{1}{4}$

- containing 40 acres; and

TO: AUDREY A. BUCKLES KIRN, FORT PECK UNALLOTTED 4837:

Full interest in that portion of Fort Peck Allotment No. 128, Frederick Buckles #1, described as:

T. 28 N., R. 51 E.,  
Sec. 8 - S $\frac{1}{2}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$

Full interest in that portion of Fort Peck Allotment No. 129, Maude F. Buckles, described as:

T. 28 N., R. 51 E.,  
Sec. 8 - S $\frac{1}{2}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$

- Containing 40 acres; and house and improvements thereon; and

TO: DONNA LEE BUCKLES METIER, FORT PECK UNALLOTTED 5063:

Full interest in SURFACE ONLY in Fort Peck Allotment No. 132, Pearl Buckles, described as:

T. 28 N., R. 51 E.,  
Sec. 29 - SE $\frac{1}{4}$ NE $\frac{1}{4}$

- Containing 40 acres; and

000144

TO: ROBERT FREDERICK BUCKLES, FORT PECK UNALLOTTED 5975:

Full interest in Fort Peck Allotment No. 2738, Reno  
Red Boy, described as:

T. 27 N., R. 51 E.,  
Sec. 13 - NWSE $\frac{1}{4}$

- containing 40 acres; and

TO: AUSTIN RONALD BUCKLES, JR., FORT PECK UNALLOTTED 4483:  
ROBERT FREDERICK BUCKLES, FORT PECK UNALLOTTED 5975:

Each an undivided 1/2 interest in all the rest and  
residue, including that listed on the inventory and  
appraisement of trust real property dated March 22,  
1983, attached hereto and by this reference made a part  
hereof.

Although paragraph Third of the Will devises, "...including mineral  
interest therein." of Allotment 2306, Roy Archambeau, no distribution of  
such interest is made for the reason that the decedent did not own the  
mineral interests.

There were no claims filed against this estate.

Done at Billings, Montana, July 15, 1983.



Daniel S. Boos  
Administrative Law Judge

000145

# service in ACTION

## Crop tolerance to soil salinity

P.N. Soltanpour and R.H. Follett<sup>1</sup>

no. 0.505

### Quick Facts

Proper plant selection is one way to moderate yield reductions caused by excessive soil salinity.

The stage of plant growth has a direct bearing on salt tolerance.

Generally, the more mature the plant the more tolerant it is to salt.

Most fruit trees are more sensitive to salt than are vegetable, field and forage crops.

\* Generally, vegetable crops are more sensitive to salt than are field and forage crops.

### Discussion

Excessive soil salinity (salt) causes reduced yields of many agronomic crop plants. Yield reductions may range from a slight loss to complete crop failure, depending on the particular crop and the severity of the salinity problem. A number of treatments and management practices can be used to reduce the salt level in the soil. However, there are some situations where it is either not possible or not practical in terms of economic considerations to attain desirably low soil salinity levels. In the latter case, choice of a suitable salttolerant crop represents a way to minimize crop loss caused by salinity.

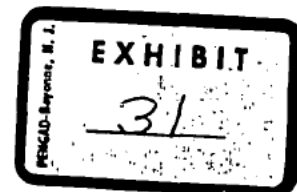
Tables 1 through 4 show the relative salt tolerance of field, forage, vegetable and fruit crops, respectively. The data were excerpted from R. S. Ayers and D.W. Westcot, 1976, *Water Quality for Agriculture, Irrigation and Drainage Paper 29*, FAO, Rome. Crop salt tolerance data

in the table were developed, almost entirely, by the U.S. Salinity Laboratory, Riverside, Calif.

The tables indicate the approximate soil salt concentration, expressed as electrical conductivity of saturated paste extract (ECe) in mmhos/cm at 25 degrees C, at which 0, 10, 25 and 50 percent yield decreases may be expected. The 0 yield decrement values represent expected threshold values at which salinity begins to affect crop yields. The data are based upon yield averages of representative crop varieties over a period of time. Actual yield reductions may vary depending upon the specific crop variety planted and climatic conditions during the growing season.

Fruit crops may show greater yield variation due to salinity because a large number of rootstocks and varieties are available. Also, stage of plant growth has a bearing on salt tolerance. Seedlings usually are most sensitive to salt during the emergence and early seedling stages. Plant salt tolerance usually increases as the crop develops through the growing season. This is fortunate since many of Colorado's irrigation waters increase in

This information provided by:



1. P.N. Soltanpour, Colorado State University professor, agronomy; R. H. Follett, Cooperative Extension agronomist and professor, agronomy. ©Colorado State University Cooperative Extension 7/95. For more information, contact your county Cooperative Extension office.

salt concentration during the latter part of the irrigation season.

The salt tolerance values apply only from the late seedling stage through maturity, during the period of most rapid plant growth. Crops in each class are ranked in order of decreasing salt tolerance insofar as possible.

Table 1. Salt tolerance of field crops.

Field crops	Relative yield decrease--%			
	0	10	25	50
	(mmhos/Cm)			
Barley	8	10	13	18
Cotton	7.7	9.6	13	17
Sugarbeet	7.0	8.7	11	15
Wheat	6.0	7.4	9.5	13
Safflower	5.3	6.2	7.6	9.9
Sorghum	4.0	5.1	7.2	11
Soybean	5.0	5.5	6.2	7.5
Rice (Paddy)	3.0	3.8	5.1	7.2
Broadbean	1.6	2.6	4.2	6.8
Corn	1.7	2.5	3.8	5.9
Flax	1.7	2.5	3.8	5.9
Peanut	3.2	3.5	4.1	4.9
Cowpea	1.3	2.0	3.1	4.9
Fieldbean	1.0	1.5	2.3	3.6

Table 2. Salt tolerance of forage crops.

	Forage crops			
	Relative yield decrease - %			
	0	10	25	50
	mmhos/Cm			
Tall wheatgrass	7.5	9.9	13.3	19.4
Wheatgrass	7.5	9.0	11	15
Crested wheatgrass	3.5	6.0	9.8	16
Barley hay	6.0	7.4	9.5	13
Perennial ryegrass	5.6	6.9	8.9	12.2
Tall fescue	3.9	5.8	8.6	13.3
Beardless wildrye	2.7	4.4	6.9	11.0
Sweet clover	1.5	3.2	5.9	10.3
Orchardgrass	1.5	3.1	5.5	9.6
Vetch	3.0	3.9	5.3	7.6
Alfalfa	2.0	3.4	5.4	8.8
Corn fodder	1.8	3.2	5.2	8.6
Lovegrass	2.0	3.2	5.0	8.0
Meadow foxtail	1.5	2.5	4.1	6.7
Clover--alsike, red, ladino, strawberry	1.5	2.3	3.6	5.7

Table 3. Salt tolerance of vegetable crops.

	Relative yield decrease--%			
	0	10	25	50
	mmhos/Cm			
Beets	4.0	5.1	6.8	9.6
Broccoli	2.8	3.9	5.5	8.2
Tomato	2.5	3.5	5.0	7.6
Cucumber	2.5	3.3	4.4	6.3
Cantaloupe	2.2	3.6	5.7	9.1
Spinach	2.0	3.3	5.3	8.6
Cabbage	1.8	2.8	4.4	7.0
Potato	1.7	2.5	3.8	5.9
Sweet Corn	1.7	2.5	3.8	5.9
Pepper	1.5	2.2	3.3	5.1
Lettuce	1.3	2.1	3.2	5.2
Radish	1.2	2.0	3.1	5.0
Onion	1.2	1.8	2.8	4.3
Carrot	1.0	1.7	2.8	4.6
Beans	1.0	1.5	2.3	3.6

Table 4. Salt tolerance of fruit crops.

	Relative yield decrease--%			
	0	10	25	50
	mmhos/Cm			
Date palm	4.0	6.8	10.9	17.9
Fig, Olive	2.7	3.8	5.5	8.4
Grape	1.5	2.5	4.1	6.7
Grapefruit	1.8	2.4	3.4	4.9
Orange	1.7	2.3	3.2	4.8
Lemon, Apple	1.7	2.3	3.3	4.8
Pear, Walnut	1.7	2.3	3.3	4.8
Plum	1.5	2.1	2.9	4.3
Peach	1.7	2.2	2.9	4.1
Almond	1.5	2.0	2.8	4.1
Apricot	1.6	2.0	2.6	3.7
Blackberry	1.5	2.0	2.6	3.8
Boysenberry	1.5	2.0	2.6	3.8
Raspberry	1.0	1.4	2.1	3.2
Strawberry	1.0	1.3	1.8	2.5

Bob Gough, 01:47 PM 4/15/199, No Subject

Return-Path: <rgough@gemini.oscs.montana.edu>  
Date: Wed, 15 Apr 1998 13:47:03 -0600  
X-Sender: rgough@gemini.oscs.montana.edu  
To: <acxch@montana.edu>  
From: Bob Gough <rgough@gemini.oscs.montana.edu>  
Subject:

Chet: Here goes. Information is not complete, and much has been done on California plants, which does us no good. Here's all the data I've got.

- ✓ Low tolerance: Rose, Kentucky bluegrass, bentgrasses, red fescue, meadow fescue, beans, carrots, onions, radish, lettuce, peppers, strawberry, raspberries, blackberries, plums, clover, meadow foxtail, big trefoil
- ✓ Moderate tolerance: Viburnum, Lantana, boxwood, arborvitae, silverberry, spreading juniper, other junipers, Alta fescue, perennial ryegrass, sweet corn, potatoes, cabbage, spinach, cucumbers, apples, pears, walnuts, birdsfoot trefoil narrow leaf, alfalfa, orchardgrass
- ✓ High tolerance: Buffaloberry, alkaligrass, euonymous, beets, broccoli, tomatoes, muskmelon, grapes, tall wheatgrass, crested wheat grass, sudan grass, fairway wheatgrass

Categorization of plants into low, medium, and high is really a judgement call, so some of the lows here may appear as mediums in some tables. Also, there are differences among cultivars, so it's a pretty inexact science.

Many drought resistant plants are also salt tolerant, since the physiological mechanisms behind both drought and salt tolerance are similar. There is a list of drought tolerant plants for MT on pg 52 of EB 123, so I didn't reproduce that here. Also, I think the montguide on unusual ornamentals for northern Montana has a list of salt tolerant plants. Good luck. Let me know if you need more information.

\*\*\*\*\*

Bob Gough  
Plant, Soil & Environmental Sciences Dept.

Printed for Chester Hill <acxch@montana.edu>

1

*\*Chet Hill is the county agent for Roosevelt County & is located in Culbertson.*

### Relative Salt Tolerance of Common Garden Vegetables\*

High Salt Tolerance	Medium Salt Tolerance	Low Salt Tolerance
Beet	Tomato	Radish
Kale	Broccoli	Celery
Asparagus	Cabbage	Bean
Spinach	Pepper	
	Cauliflower	
	Lettuce	
	Corn	
	Potato	
	Carrot	
	Onion	
	Pea	
	Squash	
	Cucumber	

\* Relative salt tolerance decreases down each column, e.g., tomato is more salt tolerant than cucumber.

# WOODY ORNAMENTAL PLANTS TOLERANT OF SALTY SOILS

Both woody and herbaceous ornamentals differ in their tolerance to alkaline soil. Certain of these are tolerant of dry, alkaline conditions, while others will grow in alkaline, wet conditions. The following is a tabulation of trees, shrubs, vines, and herbaceous plants with tolerance to salty soil conditions. Where arranged in vertically aligned blocks, each successive block has less salt tolerance than the previous one. Plants in the same vertical line are considered to be equal in their salt tolerance.

## DECIDUOUS TREES

Norway Maple	<i>Acer platanoides</i>
Horse Chestnut	<i>Aesculus hippocastanum</i>
Honeylocust	<i>Gleditsia triacanthos</i>
White Poplar	<i>Populus alba</i>
Cottonwood	<i>Populus deltoides</i>
Black Locust	<i>Robinia pseudoacacia</i>
✓ Green Ash (the 5 trees in our yard)	<i>Fraxinus pennsylvanica lanceolata</i>
Russian Olive	<i>Elaeagnus angustifolia</i>
Lombardy poplar	<i>Populus nigra italica</i>
Mountain Ash	<i>Sorbus aucuparia</i>
Ussurian Pear	<i>Pyrus ussuriensis</i>

## DECIDUOUS

Salt-Tree	<i>Halimodendron halodendron</i>
✓ Caragana (peashrub) planted in yard	<i>Caragana arborescens</i>
Sea-buckthorn	<i>Hippophae rhamnoides</i>
Staghorn Sumac	<i>Rhus taphrina</i>
Salt Cedar	<i>Tamarix pentandra</i>
Buckthorn	<i>Rhamnus sp.</i>
Burningbush	<i>Euonymus alatus</i>
Honeysuckle	<i>Lonicera sp.</i>
Japanese Tree Lilac	<i>Syringa reticulata</i>
Common Lilac	<i>Syringa vulgaris</i>
Buffaloberry	<i>Shepherdia argentea</i>

## CONIFERS

Colorado Spruce	<i>Picea pungens</i>
Jack Pine	<i>Pinus banksiana</i>
Mugo Pine	<i>Pinus mugo</i>
Austrian Pine	<i>Pinus nigra</i>

Rocky Mountain Juniper  
Scots Pine  
Junipers

*Juniperus scopulorum*  
*Pinus sylvestris*  
*Juniperus sp.*

### WOODY GROUND COVERS AND VINES

Matrimony Vine  
Creeping Juniper  
Virginia Creeper  
Saltbush  
Bittersweet  
Halls Honeysuckle

*Lycium halimifolium*  
*Juniperus horizontalis*  
*Parthenocissus quinquefolia*  
*Atriplex sp.*  
*Celastrus sp.*  
*Lonicera japonica* 'Halliana'

### HERBACEOUS ORNAMENTALS (Not in order of resistance to salinity)

Black Broom  
Soapweed  
Yarrow  
\*Windflower  
Rock Cress  
Michaelmas Daisy  
\*Canterbury Bells  
Cornflower, Bachelor Button  
Snow-in-summer  
\*Chrysanthemum  
\*Clematis  
\*Delphinium  
Pinks  
Gas Plant, Flame Flower  
Sea Holly  
Baby's Breath  
Heliopsis, Ox-Eye  
\*Christmas Rose  
\*Coral Bells  
Candytuft  
Lavender  
Baby Snapdragon  
Flax  
Maltose Cross  
Evening Primrose  
\*Pincushion Flower  
\*Sweet Pea  
\*Wallflower

*Cytissus nigricans*  
*Yucca glauca*  
*Achillea sp.*  
*Anemone sp.*  
*Arabis sp.*  
*Aster sp.*  
*Campanula medium*  
*Centaurea montana*  
*Cerastium tomentosum*  
*Chrysanthemum morifolium*  
*Clematis sp.*  
*Delphinium sp.*  
*Dianthus sp.*  
*Dictamnus albus*  
*Eryngium amethystinum*  
*Gypsophila paniculata*  
*Heliopsis sp.*  
*Helleborus niger*  
*Heuchera sp.*  
*Iberis sempervirens*  
*Lavandula officinalis*  
*Linaria sp.*  
*Linum sp.*  
*Lychnis chalcedonica*  
*Oenothera sp.*  
*Scabiosa caucasica*  
*Lathrus odorata*  
*Erysimum sp.*

\* Herbaceous perennials preceded by an asterisk are favored by moist conditions; all others, moderately dry to dry soil conditions.

## PART 4.7 IRRIGATION WATER QUALITY

## 4.7.1 IRRIGATION WATER CHARACTERISTICS

Irrigation water always contains measurable quantities of dissolved substances which as a general collective term are called salts. These include relatively small but important amounts of dissolved solids originating from dissolution or weathering of rocks and from the dissolving of lime, gypsum and other soluble salts as water passes through the soil. The suitability of water for irrigation is determined by the amount and kind of salts present in the irrigation water. With poor water quality various soil and cropping problems can be expected to develop. Special management practices may then be required to maintain crop productivity.

The amount of salt contained in the water also varies with the time of year. In the spring at the time of high run-off, most streams reach a low in concentration of dissolved solids. At this time of year the proportion of water entering from saline seeps and/or irrigation return flows are at a minimum compared with other times during the year. Later in the year when the stream reaches low flow the irrigation water quality is usually poorest. Keep in mind that a given irrigation water from a surface source may not be of the same quality during the whole period of an irrigation season.

The problems that result from using poor quality water will vary both as to kind and degree. The most common problems are salinity, permeability and specific ion toxicity. Several other effects will also be discussed.

✓ Salinity: A salinity problem occurs if the total quantity of salts in the irrigation water is high enough that salts accumulate in the root zone to the extent that yields are affected. If this happens the plants have difficulty in extracting enough water from the soil solution to meet their consumptive use. Reduced water uptake (availability) can result in decreased growth rates and an inability to achieve desired crop yields and quality. Studies indicate that plants are less tolerant to salinity in the upper parts of the root zone than in the lower part. Thus, managing this critical upper root zone may be as important as providing adequate leaching to prevent excessive salt accumulation in the total root zone.

Salinity or the total concentration of soluble salts in irrigation water can be adequately expressed in terms of electrical conductivity (EC). Electrical conductivity is useful because it can be inexpensive and precisely determined. The EC of water is usually expressed in terms of micromhos/cm while soil salinity (conductivity of the saturation extract) is usually expressed in millimhos/cm. 1000 micromhos/cm (umhos/cm) equals 1 millimhos/cm (mmhos/cm). This guide will use EC in mmhos/cm as SCS employees are more familiar with these units. Specific Conductivity (S.C.) is EC corrected to 25 degrees C.

Permeability: A permeability problem related to water quality occurs when the rate of water infiltration into and through the soil is reduced because of specific salts or lack of salts in the irrigation water reducing yields. The poor soil permeability makes it more difficult to supply the crop with water and may greatly add to cropping difficulties through crusting of seed beds, waterlogging of surface soil and accompanying disease, salinity, weed, oxygen and nutritional problems.

X The adverse influence of excessive sodium on soil permeability has been recognized for many years. When the relative concentration of sodium in the soil water is greater than that of calcium and magnesium the soil particles disperse reducing permeability. In soil water containing high concentrations of bicarbonate and/or carbonate ions, the calcium and magnesium tend to precipitate as carbonates. The relative concentrations of calcium and magnesium are reduced effectively increasing that of sodium. The soil then disperses, thus reducing permeability. Irrigation water with a low salt content has a tremendous capacity to dissolve and remove calcium, magnesium and other soluble salts from the soil structure. This may result in higher sodium content in the soil which again reduces permeability.

To evaluate the effect of irrigation water on soil permeability it is then necessary to determine (a) the sodium content relative to the calcium and magnesium content, (b) bicarbonate and carbonate content and (c) the total salt content of the water. The interaction of these three factors determines a water's long-term influence on soil permeability.

In the next section on interpretations factor (a) sodium content vs. calcium and magnesium content is dealt with alone by use of the Sodium Adsorption Ratio (SAR), the interaction of factors (a) and (b) carbonates, is interpreted by use of the "adjusted" SAR or "adj SAR", while factor (c) total salt content is expressed by EC.

Specific Ion Toxicity: A toxicity problem occurs when certain constituents in the water are taken up by the crop and accumulate in amounts that result in a reduced yield. This is usually related to one or more specific ions in the water, namely boron, chloride and sodium. As little as one part of boron per million parts of water will cause yield reductions in some crops. High levels of chloride and sodium in irrigation water may concentrate in plant leaves causing excessive leaf burn. High concentrations of trace elements such as heavy metals can adversely affect plants.

Miscellaneous Effects: Excessive nitrogen in irrigation water or the soil can cause excessive vegetative growth and delayed crop maturity. White deposits on fruit or leaves may be due to sprinkler irrigation of high bicarbonate water. Low or high water pH can indicate potential problems of nutrition or toxicity. Water pH can also be used to predict potential drip irrigation problems such as precipitates.

Table 4.4  
GUIDELINES FOR INTERPRETATION OF WATER QUALITY IN IRRIGATION

IRRIGATION LIMITATION DUE TO	DEGREE OF PROBLEM		
	No Problem	Increasing Problem	Severe Problem
SALINITY (affects crop water availability)			
ECw (mmhos/cm)	<0.75	0.75-3.0	>3.0
PERMEABILITY (affects infil- tration rate into soil)			
ECw (mmhos/cm)	>0.5	.2-.5	< .2
SAR adj. <u>1/</u>	<8	8 -16 <u>2/</u>	>16
SPECIFIC ION TOXICITY (affects sensitive crops)			
Sodium <u>3/4/</u> (meq/l)	<3	3 - 9	> 9
Chloride <u>3/4/</u> (meq/l)	<4	4 -10	>10
Boron (mg/l or ppm) <u>5/</u>	<0.75	0.75-2.0	> 2.0
Other trace elements <u>6/</u>			
MISCELLANEOUS EFFECTS (affects susceptible crops or irrigation method)			
NO <sub>3</sub> -N (or) NH <sub>4</sub> -N (mg/l)	<5	5-30	>30
HCO <sub>3</sub> (meq/l) (overhead sprinkling)	<1.5	1.5-8.5	> 8.5
pH	NORMAL RANGE 6.5<pH<8.4		
For Drip/Trickle Irrigation			
HCO <sub>3</sub> (meq/l)	>2 with pH >7.5		
Fe (Iron in mg/l)	>0.3 with pH 4.0-8.5		
Precipitates	5.5 <pH >7.0		

<sup>1/</sup>Adj. SAR means adjusted sodium adsorption ratio and can be calculated using the procedure given in Table 4.5. If Montmorillonite is the dominant clay type, reduce values by 50%.

<sup>2/</sup>Use the lower range if ECw < .4 mmhos/cm; Use the intermediate range if ECw = 0.4-1.6 mmhos/cm; Use upper limit if ECw > 1.6 mmhos/cm.

<sup>3/</sup>Most tree crops and woody ornamentals are sensitive to sodium and chloride (use values shown). Most annual crops are not sensitive.

<sup>4/</sup>With sprinkler irrigation on sensitive crops, sodium or chloride in excess of 3 meq/l under certain conditions has resulted in excessive leaf tip burning and crop damage.

<sup>5/</sup>See Table 4.6.

<sup>6/</sup>See Table 4.7.

3 meq/l  
is equiv. to  
69 mg/l

Table 4.5  
CALCULATION OF ADJUSTED SAR USED IN TABLE 4.4

The adjusted Sodium Adsorption Ratio (adj. SAR) is calculated from the following equation :  $\frac{1}{2}$

$$\text{adj. SAR} = \left[ \frac{\text{Na}}{((\text{Ca} + \text{Mg})/2)^{1/2}} \right] [1 + (8.4 - \text{pHc})]$$

where Na, Ca and Mg are in meq/l (2/) from the water analysis. pHc is determined with values from the table below when substituted in the equation:

$$\text{pHc} = A + B + C \quad \frac{1}{2}$$

Values for calculating pHc-----

- A = Value in column A corresponding to sum of Ca+Mg+Na in Meq/l  
B = Value in column B corresponding to sum of Ca+Mg in Meq/l  
C = Value in column C corresponding to sum of  $\text{CO}_3 + \text{HCO}_3$  in Meq/l

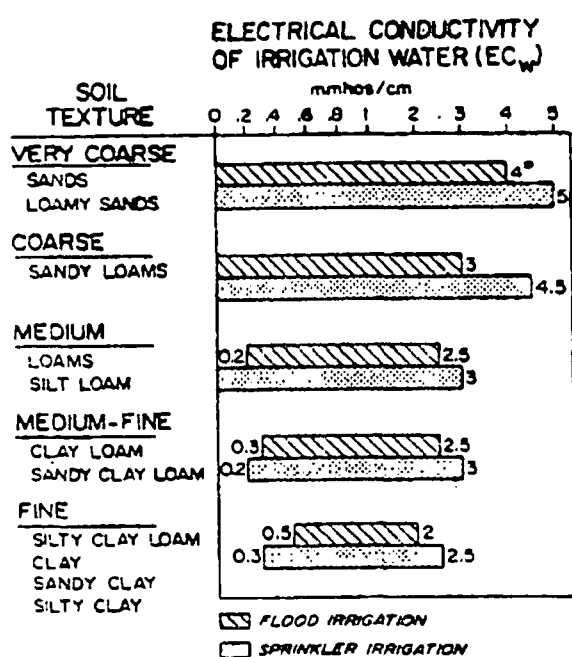
Sum of Concentration (meq/l)	A	B	C
.05	2.0	4.6	4.3
.10	2.0	4.3	4.0
.15	2.0	4.1	3.8
.20	2.0	4.0	3.7
.25	2.0	3.9	3.6
.30	2.0	3.8	3.5
.40	2.0	3.7	3.4
.50	2.1	3.6	3.3
.75	2.1	3.4	3.1
1.00	2.1	3.3	3.0
1.25	2.1	3.2	2.9
1.5	2.1	3.1	2.8
2.0	2.2	3.0	2.7
2.5	2.2	2.9	2.6
3.0	2.2	2.8	2.5
4.0	2.2	2.7	2.4
5.0	2.2	2.6	2.3
6.0	2.2	2.5	2.2
8.0	2.3	2.4	2.1
10.0	2.3	2.3	2.0
12.5	2.3	2.2	1.9
15.0	2.3	2.1	1.8
20.0	2.4	2.0	1.7
30.0	2.4	1.8	1.5
50.0	2.5	1.6	1.3
80.0	2.5	1.4	1.1

$\frac{1}{2}$  pHc is a theoretical, calculated pH of the irrigation water in contact with lime and in equilibrium with soil water.

## 2/ Unit Conversions:

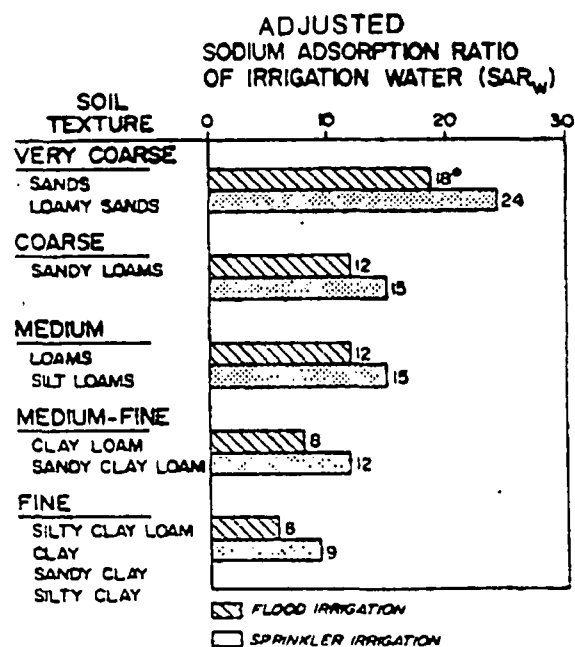
Symbol	Chemical name	Conversion mg/l to meq/l
Ca	Calcium	meq/l = (Ca mg/l)/20
Mg	Magnesium	meq/l = (Mg mg/l)/12
Na	Sodium	meq/l = (Na mg/l)/23
HCO <sub>3</sub>	Bicarbonate	meq/l = (HCO <sub>3</sub> mg/l)/61
CO <sub>3</sub>	Carbonate	meq/l = (CO <sub>3</sub> mg/l)/30

Figure 4.3 1/  
SUGGESTED RANGE IN IRRIGATION WATER EC AND SAR FOR SOIL TEXTURES



\* THE UPPER LEVEL OF SALINITY SHOWN HERE WILL REQUIRE CAREFUL MANAGEMENT TO PREVENT SALT ACCUMULATION.

Suggested Range in Irrigation Water  
EC for Soils of Varying Texture



\* DECREASE LIMIT BY 30% IF EC<sub>w</sub> 1.4 mmhos/cm

Suggested Range in Irrigation Water  
SAR for Soils of Varying Texture

1/ From the MONTGUIDE on Irrigation Water Quality in Montana by Dr. William Schafer of MSU.

Boron Hazard

Table 4.6  
RELATIVE TOLERANCE OF CROPS AND ORNAMENTALS TO BORON <sup>1/</sup>

Tolerance decreases in descending order in each column  
(Wilcox, 1960)

Tolerant	Semi-tolerant	Sensitive
(4.0 mg/l of boron)	(2.0 mg/l of boron)	(1.0 mg/l of boron)
Asparagus	Sunflower, native	Walnut, black Persian or English
Sugar beet	Potato	Jerusalem artichoke
Garden beet	Tomato	Navy bean
Alfalfa	Sweetpea	American elm
Gladiolus	Radish	Plum
Broadbean	Field pea	Pear
Onion	Raggen-robin rose	Apple
Turnip	Barley	Cherry
Cabbage	Wheat	Apricot
Lettuce	Corn	Thornless blackberry
Carrot	Milo	
	Oat	
	Zinnia	
	Pumpkin	
	Bell pepper	
	Lima bean	
2.0 mg/l of boron	1.0 mg/l of boron	0.3 mg/l of boron

<sup>1/</sup> Relative tolerance is based on boron in irrigation water at which boron toxicity symptoms were observed when plants were grown in sand culture. It does not necessarily indicate a reduction in yield.

Trace Element Hazard: Trace element concentrations greater than those shown in Table 4.7 can hinder plant growth.

Table 4.7  
RECOMMENDED MAXIMUM CONCENTRATION OF TRACE ELEMENTS IN IRRIGATION WATERS

Element (symbol)	For waters used continuously on all soils (mg/l)	For use up to 20 years on fine-textured soils of pH 6.0 to 8.5 (mg/l)
Aluminum (Al)	5.0	20.0
Arsenic (As)	0.1	2.0
Beryllium (Be)	0.1	0.5
Boron (B)	1/	2.0
Cadmium (Cd)	0.01	0.05
Chromium (Cr)	0.1	1.0
Cobalt (Co)	0.05	5.0
Copper (Cu)	0.2	5.0
Fluoride (F)	1.0	15.0
Iron (Fe)	5.0	20.0
Lead (Pb)	5.0	10.0
Lithium (Li)	2.5	2.5
Manganese (Mn)	0.2	10.0
Molybdenum (Mo)	0.01	0.05 2/
Nickel (Ni)	0.2	2.0
Selenium (Se)	0.02	0.02
Vanadium (V)	0.1	1.0
Zinc (Zn)	2.0	10.0

These levels will normally not adversely affect plants or soils. No data available for Mercury (Hg), Silver (Ag), Tin (Sn), Titanium (Ti), Tungsten (W).

1/ See Table 4.6

2/ For only acid fine-textured soils or acid soils with relatively high iron oxide contents.

Source: Environmental Studies Board. Nat. Acad. of Sci., Nat. Acad. of Eng. Water Quality Criteria 1972.



United States  
Department of  
Agriculture

March 25, 1998

Natural  
Resources  
Conservation  
Service

Warren Whitmer  
[REDACTED]

Poplar Field Office  
Tribal Minerals Build.  
605 Indian Avenue  
Box 1027  
Poplar, MT  
59255-1027

Warren,

Here is the information we spoke of on the phone this morning. Although it is a bit technical in nature, I think it will give you the needed information. I have included the following:

Map from Soil Survey showing your location.

A series of reports dealing with

- a) chemical and physical properties of your soil
- b) suitability of windbreak plantings
- c) water management considerations.

Several pages from the Montana Irrigation Manual that talk about the impacts of water quality for irrigation.

I have highlighted certain parts to help you zero in on your specific circumstances.

Another source of information would be Mr. Chet Hill, Roosevelt Co. Extension Agent. He is located in the County Building on Main Street in Culbertson, and can be contacted at 787-5312.

I hope this is helpful. If I can be of further assistance, please feel free to call me at 768-5155 ext.359.

Sincerely,

Tom Beck  
Resource Conservationist

WINDBREAKS AND ENVIRONMENTAL PLANTINGS  
Warren Whitmer

Map symbol and soil name	Trees having predicted 20-year average height, in feet. of--				
	<8	8-15	16-25	26-35	>35
56: Turner-----	Western sandcherry, Nanking cherry	Siberian peashrub, green ash, Rocky Mountain juniper, Siberian crabapple, ponderosa pine, blue spruce, common chokecherry, lilac	Russian-olive, Siberian elm	---	---

WATER MANAGEMENT  
Warren Whitmer

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
56: Turner-----	Severe: seepage	Severe: seepage	Severe: no water	Deep to water	Droughty, soil blowing	Large stones, too sandy, soil blowing	Large stones, droughty

#### WATER MANAGEMENT

##### Endnote -- WATER MANAGEMENT

This report gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes and levees; and aquifer-fed excavated ponds. The limitations are considered "Slight" if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; "Moderate" if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and "Severe" if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. This report also gives for each soil the restrictive features that affect drainage, irrigation, terraces and diversions, and grassed waterways.

POND RESERVOIR AREAS hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

EMBANKMENTS, DIKES, AND LEVEES are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this report, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction. The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties. Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

AQUIFER-FED excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

DRAINAGE is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, to a cemented pan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and potential frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, or sulfur. Availability of drainage outlets is not considered in the ratings.

WATER MANAGEMENT

Endnote -- WATER MANAGEMENT--Continued

IRRIGATION is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

TERRACES AND DIVERSIONS are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

GRASSED WATERWAYS are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock or to a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts or sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

CHEMICAL PROPERTIES OF THE SOILS  
Warren Whitmer

Map symbol and soil name	Depth	Clay	Cation- exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	Pct	meq/100g	pH	Pct	Pct	mmhos/cm	
56: Turner-----	0-10	10-20	5.0-15.0	6.1-7.8	---	---	---	---
	10-21	25-35	10.0-25.0	6.6-8.4	---	---	---	---
	21-60	0-5	10.0-20.0	7.4-8.4	8-15	---	---	---

#### CHEMICAL PROPERTIES OF THE SOILS

##### Endnote -- CHEMICAL PROPERTIES OF THE SOILS

This report shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

CLAY as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this report, the estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, and plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

CATION EXCHANGE CAPACITY (CEC) is the total amount of cations held in a soil in such a way that they can be removed only by exchanging with another cation in the natural soil solution. CEC is a measure of the ability of a soil to retain cations, some of which are plant nutrients. Soils with low CEC hold few cations and may require more frequent applications of fertilizers than soils with high CEC. Soils with high CEC have the potential to retain cations, thus reducing the possibility of pollution of ground water.

SOIL REACTION is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

CALCIUM CARBONATE is the percentage by weight of calcium carbonate in the fine-earth material, less than 2 millimeters in size.

GYPSUM is the percentage by weight of hydrated calcium sulfates 20 millimeters or smaller in size, in the soil.

SALINITY is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils.

The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the report. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

SODIUM ADSORPTION RATIO (SAR) expresses the relative activity of sodium ions in exchange reactions in the soil. SAR is a measure of the amount of sodium relative to calcium and magnesium in the water extract from saturated soil paste.

PHYSICAL PROPERTIES OF SOILS  
Warren Whitmer

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodability index" apply only to the surface layer)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								K	Kf	T		
	In	Pct	g/cc	In/hr	In/in		Pct					
56:												
Turner-----	0-10	10-20	1.20-1.40	0.60-2.00	0.12-0.16	Low	2.0-4.0	0.24	0.24	4	3	86
	10-21	25-35	1.30-1.50	0.60-2.00	0.14-0.17	Moderate	0.5-2.0	0.20	---			
	21-60	0-5	1.35-1.50	6.00-20.00	0.02-0.03	Low	0.0-0.5	0.05	---			

## PHYSICAL PROPERTIES OF SOILS

### Endnote -- PHYSICAL PROPERTIES OF SOILS

This report shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

CLAY as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this report, the estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

MOIST BULK DENSITY is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, the moisture content at 1/3 bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this report, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

PERMEABILITY refers to the ability of a soil to transmit water or air. The estimates indicate the rate of downward movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems, septic tank absorption fields, and construction where the rate of water movement under saturated conditions affects behavior.

AVAILABLE WATER CAPACITY refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil layer. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

SHRINK-SWELL POTENTIAL is the potential for volume change in a soil with a loss or gain of moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils. If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed. Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The change is based on the soil fraction less than 2 millimeters in diameter. The classes are "Low," a change of less than 3 percent; "Moderate," 3 to 6 percent; and "High," more than 6 percent. "Very high," greater than 9 percent, is sometimes used.

PHYSICAL PROPERTIES OF SOILS

Endnote -- PHYSICAL PROPERTIES OF SOILS--Continued

ORGANIC MATTER is the plant and animal residue in the soil at various stages of decomposition. In report J, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained or increased by returning crop residue to the soil. Organic matter affects the available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

EROSION FACTOR K indicates the susceptibility of the whole soil (including rocks and rock fragments) to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.05 to 0.69. The higher the value, the more susceptible the soil is to sheet and rill erosion by water.

EROSION FACTOR K<sub>f</sub> is like EROSION FACTOR K but it is for the fine-earth fraction of the soil. Rocks and rock fragments are not considered.

EROSION FACTOR T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

WIND ERODIBILITY GROUPS are made up of soils that have similar properties affecting their resistance to wind erosion in cultivated areas. The groups indicate the susceptibility of soil to wind erosion. Soils are grouped according to the following distinctions:

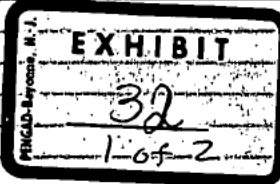
1. Coarse sands, sands, fine sands, and very fine sands.  
These soils are generally not suitable for crops. They are extremely erodible, and vegetation is difficult to establish.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, and sapric soil material. These soils are very highly erodible. Crops can be grown if intensive measures to control wind erosion are used.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams. These soils are highly erodible. Crops can be grown if intensive measures to control wind erosion are used.
- 4L. Calcareous loams, silt loams, clay loams, and silty clay loams. These soils are erodible. Crops can be grown if intensive measures to control wind erosion are used.
4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay. These soils are moderately erodible. Crops can be grown if measures to control wind erosion are used.

SOIL MAP LEGEND  
Warren Whitmer

Map symbol	Soil name
56	Turner sandy loam, 0 to 2 percent slopes

# WELL LOG REPORT

*State law requires that this form be filed by the water well driller within 60 days after completion of the well.*

<p>1. WELL OWNER Name: <u>HOWARD GRANKER</u></p> <p>2. CURRENT MAILING ADDRESS <u>#9 OF 9-31A</u></p> <p>3. WELL LOCATION County <u>ROOSEVELT</u> Township <u>28</u> N/S Range <u>28</u> EW <u>SW 1/4 NW 1/4 NW 1/4</u> Section <u>33</u> Lot _____ Block _____ Subdivision _____</p> <p>4. PROPOSED USE Domestic <input checked="" type="checkbox"/> Stock <input type="checkbox"/> Irrigation <input type="checkbox"/> Other <input type="checkbox"/> specify _____</p> <p>5. DRILLING METHOD _____ cable, _____ bored, <input checked="" type="checkbox"/> forward rotary, _____ reverse rotary, _____ jetted, other (specify) _____</p> <p>6. WELL CONSTRUCTION AND COMPLETION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Size of drilled hole</th> <th>Size and weight of casing</th> <th>From (feet)</th> <th>To (feet)</th> <th>Perforations</th> <th>Screen</th> <th>Kind Size</th> <th>From (feet)</th> <th>To (feet)</th> </tr> </thead> <tbody> <tr> <td>9"</td> <td>5" 250 STEEL</td> <td>115</td> <td>115</td> <td>.030</td> <td>STAINLESS</td> <td>5"</td> <td>115</td> <td>120</td> </tr> </tbody> </table> <p>Was casing left open end? _____ Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>  Was a packer or seal used? _____ Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>  If so, what material _____  Was the well gravel packed? _____ Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>  Was the well grouted? _____ Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>  To what depth? <u>17</u>  Material used in grouting <u>CEMENT</u>  Well head completion: Pitless adapter _____  Top of casing 18 in. or greater above grade _____ Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>  _____ Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>7. WHAT IS THE TEMPERATURE OF THE WATER?  _____ Degrees Fahrenheit  <input type="checkbox"/> Measured <input type="checkbox"/> Estimated</p>	Size of drilled hole	Size and weight of casing	From (feet)	To (feet)	Perforations	Screen	Kind Size	From (feet)	To (feet)	9"	5" 250 STEEL	115	115	.030	STAINLESS	5"	115	120	<p>8. WATER LEVEL  Static water level <u>90</u> feet below land surface  If flowing; closed-in pressure _____ psi  _____ gpm  Controlled by: _____ valve, _____ reducers,  other, (specify) _____</p> <p>9. WELL TEST DATA <input checked="" type="checkbox"/> pump _____ bailer  other, (specify) _____  Pumping water level below land surface:  <u>95</u> ft. after <u>4</u> hrs. pumping <u>20</u> gpm  _____ ft. after _____ hrs. pumping _____ gpm</p> <p>10. WAS WELL PLUGGED OR ABANDONED? _____ Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>  If yes, how? _____</p> <p>11. DATE COMPLETED <u>3-15-89</u></p> <p>12. WELL LOG</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Depth (ft.)</th> <th>From</th> <th>To</th> <th>Formation</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>15</td> <td></td> <td>GRAVEL</td> </tr> <tr> <td>15</td> <td>28</td> <td></td> <td>BROWN CLAY</td> </tr> <tr> <td>28</td> <td>102</td> <td></td> <td>GREY CLAY</td> </tr> <tr> <td>102</td> <td>120</td> <td></td> <td>GRAVEL 1 1/8" to 1/4"</td> </tr> <tr> <td>120</td> <td></td> <td></td> <td>SHALE</td> </tr> </tbody> </table> <div style="text-align: center; margin-top: 20px;">  </div> <p style="text-align: center; font-size: small;">(use separate sheet if necessary)</p> <p>13. DRILLER'S CERTIFICATION  This well was drilled under my jurisdiction and this report is true to the best of my knowledge.  <u>3-20-89</u>  Date  <u>RESERVATION DRILLING</u>  Firm Name  <u>PO BOX MT 59235</u>  Address  <u>Jack JH</u>  Signature  License No. _____</p>	Depth (ft.)	From	To	Formation	0	15		GRAVEL	15	28		BROWN CLAY	28	102		GREY CLAY	102	120		GRAVEL 1 1/8" to 1/4"	120			SHALE
Size of drilled hole	Size and weight of casing	From (feet)	To (feet)	Perforations	Screen	Kind Size	From (feet)	To (feet)																																			
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**MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION**

32 SOUTH EWING      HELENA, MONTANA 59620      444-6610

DNRG

**DEPARTMENT COPY**

**DRILLER:** Please give this copy to the well owner to complete reverse side.  
**OWNER:** Complete reverse side of Form 602 and send to DNRC.

000129

Client: PHS Indian Health Service Date April 13, 1989  
 Identification: H. Grainger #9 Job No. 87-952  
 Laboratory Number: 96271 Sheet 2 of 3  
 Date Sampled: 3/16/89

pH, standard units: 7.4  
 Conductivity, umhos/cm: 2480  
 Total Dissolved Solids  
     (at 180 C), mg/l: 1710  
 Sodium Adsorption Ratio (SAR): 6.83

Date Analy

3/29/89

4/07/89

3/31/89

## CATIONS

-----					
Total Hardness as CaCO <sub>3</sub> :	571	mg/l	11.41	meq/l	
Calcium as Ca:	105	mg/l	5.24	meq/l	4/05/89
Magnesium as Mg:	75	mg/l	6.17	meq/l	4/05/89
Sodium as Na:	375	mg/l	16.31	meq/l	4/05/89
Potassium as K:	8	mg/l	0.20	meq/l	4/05/89
Total Cations:			27.92	meq/l	

## ANIONS

-----					
Total Alkalinity as CaCO <sub>3</sub> :	558	mg/l	11.16	meq/l	3/30/89
Bicarbonate Alkalinity as HCO <sub>3</sub>	681	mg/l	11.16	meq/l	
Carbonate Alkalinity as CO <sub>3</sub> :	0	mg/l	0.00	meq/l	
Hydroxide Alkalinity as OH:	0	mg/l	0.00	meq/l	
Chloride as Cl:	34	mg/l	0.96	meq/l	4/11/89
Fluoride as F:	0.25	mg/l	0.01	meq/l	4/11/89
Nitrate + Nitrite as N:	-0.05	mg/l	0.00	meq/l	4/07/89
Sulfate as SO <sub>4</sub> :	772	mg/l	16.07	meq/l	3/31/89
Total Anions:			28.20	meq/l	
Cation-Anion Difference:			0.28	meq/l	

Total Iron as Fe	1.41	mg/l			4/06/89
Total Manganese as Mn	0.22	mg/l			4/06/89

000130

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF INDIAN AFFAIRS  
LEASE

Allotted

0518  
Lease No. \_\_\_\_\_  
Document No. \_\_\_\_\_

THIS LEASE, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_\_ by and between Francis P. Renz, Allotment # 791, hereinafter called the "LESSOR", and the Fort Peck Housing Authority, hereinafter called the "LESSEE", in accordance with existing law and regulations (25 CFR 131) which by reference are made a part hereof, and subject to the approval of the Secretary of the Interior or his duly authorized representative acting under delegated authority.

WITNESSETH:

The parties hereto for the consideration hereinafter mentioned do covenant and agree as follows:

1. PREMISES. The Lessor hereby leases to the Lessee the following real property located in the \_\_\_\_\_ County, State of \_\_\_\_\_, described as follows:  
NE 1/4 NW 1/4, NW 1/4 Section 33, T28, R51 Poplar, Montana

The above property will comprise one dwelling site.

2. USE OF PREMISES. The premises shall be used for the purpose of constructing a home and its appurtenances, under the Public Housing \_\_\_\_\_ Project, with the financial assistance of Housing & Urban Dev. \_\_\_\_\_, hereinafter called \_\_\_\_\_ the lender, a(n) \_\_\_\_\_ Agency that makes, guarantees, or insures loans, and for such other purposes, not inconsistent with the foregoing as may be approved by the Lessor and \_\_\_\_\_ the lender.

3. TERM. Lessee shall have and hold the described premises with their appurtenances for a term of 25 years beginning on the date of approval by the Secretary. This lease shall automatically and without notice renew for an additional term of 25 years on the same terms and conditions contained herein. This lease may not be terminated by either or both parties during the term provided herein if and so long as the lease and/or any improvements on the leased premises, or any interest therein are mortgaged, or pledged or encumbered as security for any loan to \_\_\_\_\_ the lender, \_\_\_\_\_ or its successors pursuant to an authorized encumbrance instrument, unless \_\_\_\_\_ the lender \_\_\_\_\_ or successor, consents in writing to such termination agreed upon by the Lessor and Lessee.

4. CONSIDERATION FOR LEASE. In consideration of the Lessor entering into the lease, the Lessee shall pay the Lessor for use of the premises rent at the rate of one dollar (\$1.00) for each 25 year term, payment to be made for each term in advance. It is agreed that there shall be no adjustment of these payments in the event that any part of the leased premises is taken by condemnation for highway or other public purposes. It is further agreed that this lease or any part thereof including this paragraph shall not be construed to prejudice the rights or impair the prosecution of any claim of the Lessee arising out of such condemnation proceeding.

5. SUBLEASES. The Lessee is hereby authorized to make subleases of its leasehold interests in connection with the construction, development, and occupancy of the house on the leased premises subject to the limitations of term and other conditions or limitations of this lease.

6. ASSIGNMENTS. This lease shall not be assigned, in whole or in part without the prior written consent of the Lessor or the Secretary, and \_\_\_\_\_ the lender, during the period that \_\_\_\_\_ the lender \_\_\_\_\_ has a financial interest in the project, provided that the Lessee may assign this lease or deliver possession of the premises to the United States of America without the consent of the Lessor or Secretary in the event of the issuance of a Notice of Substantial Default, of substantial breach of any financial assistance contract between the Lessee and the United States.

7. IMPROVEMENTS. All improvements shall remain the property of the Lessee, sublessee or assignee until the expiration of the lease. All such improvements shall then become the property of the Lessor at the expiration or termination of this lease.

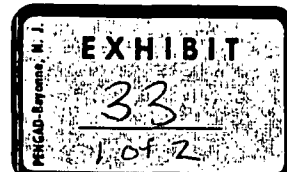
8. INSURANCE. Lessee agrees to obtain and maintain for owner's, landlord's, and tenant's public liability insurance, excluding property damage, at no cost to and in amounts acceptable to the Lessor and \_\_\_\_\_ the lender. It is understood and agreed that the term "owners" includes both the United States and the Lessor. The Lessee and its assigns shall hold the Lessor and the United States harmless from any claim of whatsoever nature arising out of the use or occupancy of the leased or subleased premises.

9. RELINQUISHMENT OF SUPERVISION BY THE SECRETARY. Nothing contained in this lease shall operate to delay or prevent a termination of Federal trust responsibilities with respect to the land by the issuance of a fee patent or otherwise during the term of the lease; however, such termination shall not serve to abrogate the lease. The owners of the land, the lender, and the Lessee shall be notified by the Secretary of any such change in the status of the land.

10. SHARE OF BENEFIT FROM LEASE. No member of Congress or any delegate thereto or any resident Assistant Secretary for Indian Affairs shall be admitted to any share or part of this lease or to any benefit that may arise herefrom.

11. VIOLATIONS OF LEASE. It is understood and agreed that violations of this lease shall be acted upon in accordance with the regulations in 25 CFR 131.

12. QUIET ENJOYMENT. Lessor agrees to defend the title of the leased premises and also especially agrees that Lessee and its tenants shall peaceably and quietly hold, enjoy and occupy the leased premises for the duration of this lease without any hindrance, interruption, ejection or molestation by Lessor or by any other person or persons whatsoever.



14. **UNLAWFUL CONDUCT.** The Lessee agrees not to use or cause to be used any part of said premises for any unlawful conduct or purposes.

15. **ASSENT NOT WAIVER OF FUTURE BREACH OF COVENANTS.** No assent, express or implied to any breach of any of the Lessee's covenants, shall be deemed to be a waiver of any succeeding breach of any covenants.

1.7. ENCUMBRANCE. Lessee may, with approval of the Secretary, mortgage, pledge or otherwise encumber the lease or improvements on the leased premises as may be necessary and appropriate under a Federal financial assistance contract between the Lessee and \_\_\_\_\_, the lender. Provided, that Lessee shall not, without the prior written consent of the Lessor and Secretary and written approval of \_\_\_\_\_ the lender, mortgage, pledge or encumber this lease or any interest in this lease or improvements on the leased premises when a prior, existing mortgage, pledge or encumbrance is in force with \_\_\_\_\_ the above lender or any other Federal or non-Federal agency. Nothing in this lease shall prevent \_\_\_\_\_ the lender \_\_\_\_\_ or other lender under an authorized encumbrance, from taking the necessary actions, if a sale or foreclosure occurs under the approved encumbrance the encumbrances may assign the leasehold interest only with the approval of the Secretary and purchaser's will be bound by the terms of this lease and will assume all obligations thereunder in writing.

19. DEFINITIONS. Secretary as used in this lease means the Secretary of the Interior or his duly authorized representative acting under delegated authority.

In Witness Whereof, the parties hereto have hereunto set their hands on the date first above written.

## LESSON

LESSON

LESSOR

LESSON

LESSEE

## HARLAN

**SECRETARY**

SECRETARY OF THE INTERIOR

## HARLAN

**SECRETARY**

000132

**FORT PECK HOUSING AUTHORITY**

P.O. BOX 667

TEL. 406-768-3459

POPLAR, MONTANA

59255

May 31, 2001

Charles Four Bear

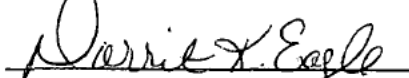
[REDACTED]

Poplar, MT 59255

Dear Charles,

Enclosed is a copy of the requested evaluation of your account. If you have any questions regarding your evaluation please contact my office at 768-3459. Thank you.

Sincerely,

  
Occupancy Research Specialist

Enclosure



# EVALUATION OF ACCOUNT

Name: Charles Four Bear

Project: 9-34

Lease Date: 4-17-91

Unit : 90

Term Date : \_\_\_\_\_

Month <u>9</u>	Charges	Payments	Receipt #	Date Paid	Balance	<u>MEPA</u>	
January							
February							
March							
April							
May							
June	90.00 45.00	45.00 ADS.			45.00	.00	
July	45.00	45. ADS.			.00		
August	45.00	45. ADS.			.00		
September	45.00				45.00		
October	45.00				90.00		
November	45.00				135.00		
December	45.00	135.	1992	12-19	45.00	.00	

## EVALUATION OF ACCOUNT

Name: Charles Four BearProject: 9-34Lease Date: 4-17-91Unit : 30

Term Date : \_\_\_\_\_

Month 92 Charges Payments Receipt # Date Paid Balance MEPA

January	45.00					90.00	.00
February	45.00	45.00	2584	2-6		90.00	
March	45.00						
April	45.00	45.	3361	4-21			
Utilities	407.03					542.03	
May	45.00	71.50 72.00	3706 3771	5-18 5-28		443.53	.00
June	45.00	72. 72.	4025 4211	6-15 6-30		373.53	29.00 CR
July	74.00	72.	4483	7-27		375.53	58.00 CR
August	74.00	72. 72. 72.	4610 4741 4768	8-11 8-24 8-27		233.53	82.00 CR
September	74.00	72. 72.	4917 5075	9-9 9-21		163.53	106.00 CR
October	74.00	72. 72. 72.	5241 5392 5538	10-6 10-19 10-30		21.53	130.00 CR
November	74.00	72.	5693			23.53	154.00 CR
December	74.00	72. 72.	5914 6156	11-30 12-30		46.47	178.00 CR

## EVALUATION OF ACCOUNT

Name: Charles Four BearProject: 9-34Lease Date: 4-17-91Unit : 30

Term Date : \_\_\_\_\_

Month	Charges	Payments	Receipt #	Date Paid	Balance	MEPA
January	74.00	72. 72.	6302 6395	1-14 1-22	116.47 CR	203.78 CR
February	74.00	72. 72. 72.	6433 6462 6811	2-9 2-9 2-23	258.47 CR	227.78 CR
March	74.00	72. 72.	7000 7145	3-9 3-23	328.47 CR	231.78 CR
April	74.00	72. 72.	7287 7431	4-7 4-20	398.47 CR	275.78 CR
May	74.00	72. 72.	7655 7773	5-10 5-20	468.47 CR	299.78 CR
June	74.00	72. 72. 72.	7962 8125 8246	6-2 6-15 6-24	610.47 CR	230.00
2 Storm Dr.	230.00				610.47 CR	97.28 CR
July	74.00	72.	8378	7-14	108.47 CR	121.28 CR
Repend	500.				108.47 CR	121.28 CR
August	74.00	72. 72. 72.	8675 8708 8835	8-17 8-18 8-28	250.47 CR	146.05 CR
September	74.00	72. 72.	8984 9150	9-9 9-22	320.47 CR	170.05 CR
October	74.00	72. 72. 72.	9318 9492 9600	10-6 10-21 10-29	462.47 CR	194.05 CR
November	74.00					47.67
Furnace Repair CO# 10595	47.67				388.47 CR	170.38 CR
December	74.00				314.47 CR	194.38 CR

## EVALUATION OF ACCOUNT

Name: Charles Fourn BearProject: 9-34Lease Date: 4-17-91Unit : 30

Term Date : \_\_\_\_\_

Month 94 Charges Payments Receipt # Date Paid Balance MEPA

January	74.00					240.47CR	219.87CR
February	74.00						36.50
Repaired Outlet CO # 19896	36.50					166.47CR	207.37CR
March	74.00					92.47CR	231.37CR
April	74.00	72. 72.	11541 11689	4-20 4-29		162.47CR	255.37CR
May	74.00	72. 72.	11931 12084	5-18 5-27		232.47CR	279.37CR
June	74.00	72. 72.	12318 12478	6-15 6-23		302.47CR	303.37CR
July	74.00	72. 72.	12779 12838	7-28 7-29		372.47CR	327.37CR
August	74.00	72. 72.	12963 13146	8-4 1-18			
Outlet repair	18.27					424.20CR	351.37CR
September	74.00	72. 72.	13361 13589	9-6 9-21		494.20CR	375.37CR
October	74.00	72. 72.	13818 13847	10-11 10-13		564.20CR	399.37CR
November	74.00	72. 72.	14192 14380	11-8 11-21		634.20CR	423.37CR
December	74.00	144.	14611	12-9		704.20CR	447.37CR

## EVALUATION OF ACCOUNT

Name: Charles Four BarProject: 9-34Lease Date: 4-17-91Unit : 30

Term Date : \_\_\_\_\_

Month	Charges	Payments	Receipt #	Date Paid	Balance	MEPA
January	74.00	72. 72.	14996 15019	1-10 1-10		101.74
Fdn/Light	101.74				846.20 CR	369.63 CR
February	74.00	72. 72.	15505 15668	2-13 2-21		
					916.20 CR	393.63 CR
March	74.00	72. 72.	15945 16251	3-9 3-28		
					986.20 CR	417.63 CR
April	74.00	72. 72. 72.	16346 16582 16744	4-5 4-24 4-27		
Refund.	154.14				974.06 CR	441.63 CR
May	74.00	72.	17013	5-17		
					972.06 CR	465.63 CR
June	74.00	72. 72.	17269 17442	6-6 6-16		
					1,042.06 CR	500.62 CR
July	74.00	72.	17691	7-6		
Refund	300.				240.06 CR	524.62 CR
August	74.00					
					1166.06 CR	548.62 CR
September	74.00					
					92.06 CR	572.62 CR
October	308.00					572.42
Replaced Pump	577.59	572.62				
replace toilet	325.48				546.39	258.00 CR
November	308.00					
					854.39	516.00 CR
December	308.00					153.83
Plumbing		549.905.				549.00
#121110	153.83				663.39	71.17 CR

## EVALUATION OF ACCOUNT

Name: Charles Four BinnProject: 9-34Lease Date: 4-17-91Unit : 30

Term Date : \_\_\_\_\_

Month 96 Charges Payments Receipt # Date Paid Balance MEPA

January	125.00				738.39	146.17CR	
February	125.00				863.39	221.17CR	
March	125.00				988.39	296.17CR	
April	125.00				1,113.39	371.17CR	
May	125.00				1,238.39	446.17CR	
June	125.00				1,363.39	521.17CR	
July	125.00				1,488.39	596.17CR	
August	125.00				1,613.39	671.17CR	
September	125.00				1,738.39	746.17CR	
October	125.00	50.	24588	10-29	1,813.39	821.17CR	
November	125.00				1,938.39	896.17CR	
December	125.00				1,998.39	956.17CR	

# EVALUATION OF ACCOUNT

Name: Charles Four Bird

Project: 9-34

Lease Date: 4-17-91

Unit : 30

Term Date : \_\_\_\_\_

Month	97 Charges	Payments	Receipt #	Date Paid	Balance	MEPA
January	125.00	65.	25599	1-15		
					2,058.39	1,016.17 CR
February	125.00					
					2,183.39	1,076.17 CR
March	125.00	840. ADJ.				840.00
					1,468.39	296.17 CR
April	65.00					
					1,533.39	296.17 CR
May	65.00					
					1,598.39	
June	65.00					
					1,663.39	
July	65.00					
					1,728.39	
August	65.00					
					1,793.39	
September	65.00	120.	28791	9-8		
					1,738.39	
October	65.00					
					1,803.39	
November	65.00					
					1,868.39	
December	65.00	120.	29905	12-3		
					1,813.39	296.17 CR

## EVALUATION OF ACCOUNT

Name: Charles Four BearProject: 9-34Lease Date: 4-17-91Unit : 310

Term Date : \_\_\_\_\_

Month	98 Charges	Payments	Receipt #	Date Paid	Balance	MEPA
January	65.00	40. 40.	30540 30658	1-13 1-20	1,598.39	296.17 CR
February	65.00	40. 40.	22826 23149	2-4 2-13	1,583.39	
March	65.00	60.	23694	3-10	1,588.39	
April	65.00	80.	24420	4-6	1,573.39	
May	65.00				1,638.39	
June	65.00				1,703.39	
July	65.00				1,768.39	
August	65.00				1,833.39	
September	65.00				1,898.39	
October	65.00				1,963.39	
November	65.00					
Repaired Furnace 20# 4048	64.00				2,092.39	
December	65.00				2,157.39	296.17 CR

## EVALUATION OF ACCOUNT

Name: Charles Four Bear

Project: 9-34

Lease Date: 4-17-91

Unit : 30

Term Date : \_\_\_\_\_

Month	Charges	Payments	Receipt #	Date Paid	Balance
99					MEPA

January	65.00						
					2,222.39	296.17CR	
February	65.00						
					2,287.39	296.17CR	
March	65.00						
Repaired Pump	455.12					455.12	
maint					2,352.39	158.95	
April	65.00	50.	50271	4-17			
					2,367.39		
May	65.00	50.	50547	4-30			
		50.	50934	5-17			
					2,332.39		
June	65.00	50.	51198	6-2			
shingles	240.	50.	68590	6-16			
repaired pump	293.99	50.	68830	6-29			
repaired pump	179.89				3,361.27		
July	65.00	50.	69206	7-16			
control		50.	69551	7-29			
replaced pump	471.50						
HWH #5386	582.54				4,380.31		
August	65.00	50.	69894	8-10			
		50.	70136	8-24			
					4,927.85		
HWH #5386	582.54						
September	65.00	50.	70627	9-23			
					4,942.85		
October	65.00	50.	70935	10-6			
		50.	71195	10-20			
					4,907.85		
November	65.00	50.	71543	11-3			
		50.	71863	11-15			
		50.	72132	11-29			
					4,822.85		
December	65.00	50.	72442	12-14			
		50.	72646	1-27			
					4,787.85	158.95	

## EVALUATION OF ACCOUNT

Name: Charles Four BearProject: 9-34Lease Date: 4-17-91Unit : 30

Term Date : \_\_\_\_\_

Month 00 Charges

Payments

Receipt #

Date Paid

Balance

MEPA

January	65.00	50. 50.	73037 73310	1-11 1-24			
					4,752.85	158.95	
February	65.00	50. 50.	16247 16493	2-9 2-22			
					4,717.85		
March	65.00	50. 50.	17048 17268	3-16 3-22			
					4,682.85		
April	65.00	50.	17723	4-14			
					4,697.85		
May	65.00	50. 50. 50.	18062 18383 18667	4-30 5-12 5-26			
					4,612.85		
June	65.00	50. 50.	19053 19301	6-12 6-23			
					4,577.85		
July	65.00	50. 50.	19648 19881	7-10 7-21			
Replaced HWH WO# 8349	3163.66				4,906.51		
August	65.00	50. 50.	20265 20631	7-31 8-31			
					4,871.51		
September	65.00	50.	93547	9-18			
					4,886.51		
October	65.00	50. 50. 50.	93912 94198 94477	10-4 10-17 10-27			
					4,801.50		
November	65.00	50. 50.	94793 95096	11-9 11-27			
					4,766.51		
December	65.00	50. 50.	95476 95724	12-13 12-26			
					4,731.51	158.95	

## EVALUATION OF ACCOUNT

Name: Charles Four BearProject: 9-34Lease Date: 4-17-91Unit : 30

Term Date : \_\_\_\_\_

Month 01 Charges Payments Receipt # Date Paid Balance MEPA

January	65.00	50. 50.	96074 96350	1-9 1-24		4,696.51	158.93
February	65.00	50. 50.	96645 96997	1-31 2-20		4,661.51	
March	65.00	50. 50.	97574 97934	3-12 3-30		4,626.51	
April	65.00	50.	98375	4-17		4,641.51	
May	65.00	50. 50. 50.	98818 99015 99313	4-30 5-11 5-25		4,556.51	
June	65.00						158.95
July							
August							
September							
October							
November							
December							